

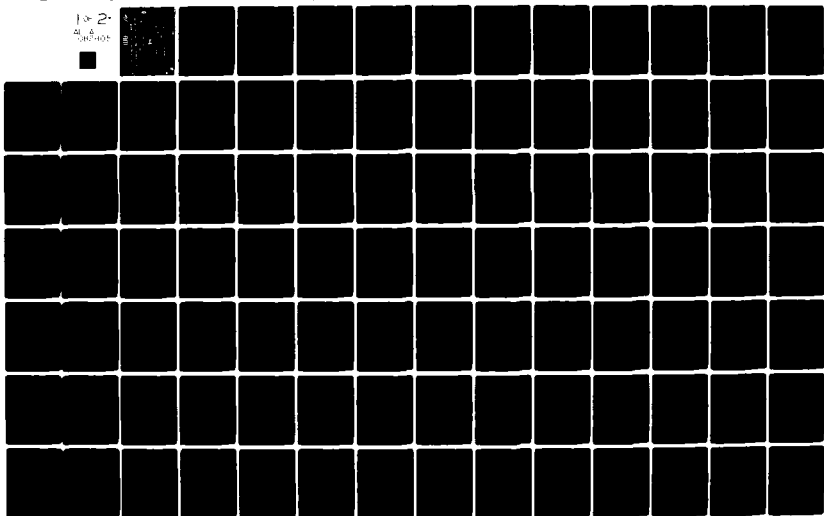
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DEPUTY CHIEF OF STAFF FOR RESEARCH DEVELOPMENT AND AC--ETC F/8 15/5
DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
JAN 80

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DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

28 January 1980

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1981, 82 (Auth only)

TABLE OF CONTENTS Page No.

Aircraft Procurement, Army	1-1
Missile Procurement, Army	2-1
Procurement of Weapons and Tracked Combat Vehicles, Army..	3-1
Procurement of Ammunition, Army	4-1
Other Procurement, Army	5-1
Procurement of Equipment and Missiles, Army	6-1

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Department of the Army
Aircraft Procurement, Army

Justification of Estimates for Fiscal Year 1981, 1982

<u>TABLE OF CONTENTS</u>	<u>Page No.</u>
Section 1 - Budget Appendix Extract.....	1 - 1
Section 2 - Introductory Statement.....	1 - 10
Section 3 - Summary of Requirements.....	1 - 12
Section 4 - Budget Activity Justifications.....	1 - 15
Section 5 - Comparison of Program Requirements and Financing.....	1 - 28
Section 6 - Selected Data Sheets.....	1 - 33
Section 7 - Analysis of Unobligated Balance....	1 - 34
Section 8 - Modification of Aircraft.....	1 - 37
Section 9 - Flight Simulators.....	1 - 159
Section 10- War Reserve (Furnished Separately)	

AIRCRAFT PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, modification and modernization of aircraft, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 19, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; (\$961,837,000), \$925,300,000, to remain available (1) for obligation until September 30, (1982) 1983. (2)

(10 U.S.C. 2353, 3012, 4531, 4532, 31 U.S.C. 649c; Department of Defense Appropriation Act, 1980; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1981.
- (2) To change the obligation expiration date for the FY 1981 program.

Army

Aircraft Procurement, Army

26 JAN 60

Program and Financing (in thousands of dollars)

Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)		Obligations	
		1979 actual	1981 est.	1979 actual	1981 est.
Program by activities:					
Direct:					
1. Aircraft					
11.00	Modification of aircraft	508,400	396,500	490,426	370,569
13.00	Spares and repair parts	297,300	420,037	299,288	393,817
14.00	Support equipment and facilities	66,909	71,300	69,706	75,293
21.40	Total direct	77,100	63,200	63,956	75,235
Reimbursable program					
10.00	Total	949,709	951,037	923,375	914,914
Financing:					
Offsetting collections from:					
11.00	Federal funds	17,777	-41,100	-14,113	-40,100
13.00	Trust funds	-20,624	-30,300	-15,158	-29,800
14.00	Non-federal sources	-398		71	
21.40	Unobligated balance available, start of year:			-182,622	-192,849
24.40	For completion of prior year budget plans	-11,084			
25.00	Reprogramming from or to prior year budget plans			192,849	233,786
25.00	Unobligated balance available, end of year:	11,084		11,084	
25.00	For completion of prior year budget plans				
25.00	Unobligated balance lapsing	949,709	951,037	949,709	951,037
Budget authority					
40.00	Budget authority:				
41.00	Appropriation	949,709	961,837	949,709	961,837
41.00	Transferred to other accounts		-10,800		-10,800
43.00	Appropriation (adjusted)	949,709	951,037	949,709	951,037
Relation of obligations to outlays:					
71.00	Obligations incurred, net			928,399	910,100
72.40	Obligated balance, start of year			752,519	1,130,640
74.40	Obligated balance, end of year			-1,130,640	-1,290,740
77.00	Adjustments in expired accounts			7,557	
90.00	Outlays			557,934	750,000
					874,000

Army

Aircraft Procurement, Army

28 JAN 80

Object Classification (in thousands of dollars)

Identification code	21-2031-0-1-051	1979 actual	1980 est.	1981 est.
Direct obligations:				
22.0 Transportation of things		112		
25.0 Other services:				
Contracts		63,712	59,600	61,845
26.0 Supplies and materials		87,720	67,855	70,980
31.0 Equipment		771,631	787,459	797,122
Total direct obligations		923,375	914,914	929,957
Reimbursable obligations:				
25.0 Other services:				
Contracts		2,300	6,525	4,880
26.0 Supplies and materials		3,250	7,430	5,560
31.0 Equipment		28,674	51,131	58,603
Total reimbursable obligations		34,224	65,086	69,043
99.0 Total obligations		957,599	980,000	999,000

Army		Aircraft Procurement, Army		28 JAN 80		
		Program and Financing (in thousands of dollars)		1977 Fiscal year program		
Identification code 21-2031-0-1-05)		Budget plan (amounts for procurement actions programmed)		Obligations		
		1979 actual	1980 est.	1981 est.	1980 est.	1981 est.
Program by activities:						
Direct:						
	1. Aircraft				7,452	
	2. Modification of aircraft				12,973	
	3. Spares and repair parts				7,183	
	4. Support equipment and facilities				5,533	
	Total direct				33,141	
	Reimbursable program				1,098	
10.00	Total				34,239	
Financing:						
Offsetting collections from:						
11.00	Federal funds				3,720	
13.00	Trust funds				1,482	
14.00	Non-federal sources				-32	
21.40	Unobligated balance available, start of year:				-50,502	
	For completion of prior year budget plans	-11,084				
	Reprogramming from or to prior year budget plans	11,084				
25.00	Unobligated balance lapsing					
	Budget authority					

Army		Aircraft Procurement, Army		28 JAN 80	
Program and Financing (in thousands of dollars)		1978 Fiscal year program			
Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)		Obligations	
		1979 actual	1980 est.	1981 est.	1981 est.
Program by activities:					
Direct:					
1.	Aircraft				
2.	Modification of aircraft				
3.	Spares and repair parts				
4.	Support equipment and facilities				
	Total direct				
	Reimbursable program				
	Total				
10.00					
Financing:					
Offsetting collections from:					
11.00	Federal funds				
13.00	Trust funds				
14.00	Non-federal sources				
21.40	Unobligated balance available, start of year:				
	For completion of prior year budget plans				
24.40	Unobligated balance available, end of year:				
	For completion of prior year budget plans				
	Budget authority				

Army		Aircraft Procurement, Army		28 JAN 80	
Program and Financing (in thousands of dollars)		1979 Fiscal year program		Obligations	
Identification code	21-2031-0-1-051	Budget plan (amounts for procurement actions programmed)		1979 actual 1980 est. 1981 est.	
		1979 actual	1980 est.	1981 est.	1981 est.
Program by activities:					
Direct:					
1. Aircraft		508,400			43,334
2. Modification of aircraft		297,300			24,557
3. Spares and repair parts		66,909			6,613
4. Support equipment and facilities		77,100			15,433
Total direct		949,709			89,937
Reimbursable program		38,799			7,030
Total		988,508			96,967
10.00					53,651
Financing:					
Offsetting collections from:					
11.00 Federal funds		-17,777			
13.00 Trust funds		-20,624			
14.00 Non-federal sources		-398			
21.40 Unobligated balance available, start of year:					
For completion of prior year budget plans					-150,616
24.40 Unobligated balance available, end of year:					
For completion of prior year budget plans					53,651
Budget authority		949,709			949,709

Army	Aircraft Procurement, Army		28 JAN 80	
	Program and Financing (in thousands of dollars)		1980 Fiscal Year program	
	Identification code	21-2031-0-1-051	Obligations	
			Budget plan (amounts for procurement actions programmed)	
			1979 actual	1980 est. 1981 est.
Program by activities:				
Direct:				
	1. Aircraft		396,500	311,018 76,536
	2. Modification of aircraft		420,037	363,400 28,500
	3. Spares and repair parts		71,300	59,300 4,700
	4. Support equipment and facilities		63,200	55,700 4,700
	Total direct		951,037	789,418 114,436
	Reimbursable program		71,400	52,884 7,092
	Total		1,022,437	842,302 121,528
10.00				
Financing:				
Offsetting collections from:				
	Federal funds		-41,100	-41,100
	Trust funds		-30,300	-30,300
11.00				
13.00				
21.40	Unobligated balance available, start of year:			-180,135
	For completion of prior year budget plans			
24.40	Unobligated balance available, end of year:			58,607
	For completion of prior year budget plans			
	Budget authority		951,037	951,037
	Budget authority:			
40.00	Appropriation		961,837	961,837
41.00	Transferred to other accounts		-10,800	-10,800
43.00	Appropriation (adjusted)		951,037	951,037

28 JAN 80

Aircraft Procurement, Army

Program and Financing (in thousands of dollars)		1981 Fiscal year program	
Identification code	21-2031-0-1-051	Obligations	
		1979 actual	1981 est.
Program by activities:			
Direct:			
1. Aircraft		348,400	284,178
2. Modification of aircraft		396,300	328,700
3. Spares and repair parts		126,500	110,500
4. Support equipment and facilities		54,100	44,700
Total direct		925,300	768,078
Reimbursable program		75,500	55,743
10.00 Total		1,000,800	823,821
Financing:			
Offsetting collections from:			
11.00 Federal funds		-43,100	-43,100
13.00 Trust funds		-32,400	-32,400
24.40 Unobligated balance available, end of year:			176,979
For completion of prior year budget plans		925,300	925,300
Budget authority			

AIRCRAFT PROCUREMENT, ARMY

Section 2

Introductory Statement

1-10 - 1/21/80

DEPARTMENT OF THE ARMY ANNUAL BUDGET ESTIMATES	
Appropriation:	FY 1981, 82 Budget
Aircraft Procurement, Army	
Section 2 - INTRODUCTORY STATEMENT	
<p>This appropriation finances the acquisition of tactical and utility airplanes and helicopters, including associated electronics, electronic warfare and communications equipment and armament; modification of in-service aircraft; ground support equipment; and depot reparable assemblies, components and repair parts such as spare engines, transmissions, gear boxes and sensor equipment. It also funds related training devices and production base support.</p> <p>The 1981 program continues acquisition of the UH-60A BLACK HAWK utility helicopter. It initiates the advance procurement for the new AH-64 Attack Helicopter. It continues the TOW missile-launching attack helicopter AH-1 modification program which provides additional helicopter anti-armor firepower; and continues to improve the Special Electronic Mission Aircraft Fleet. In addition, the 1981 program includes modification/modernization of the CH-47 medium-lift helicopter fleet to enhance productivity, safety and survivability.</p>	

AIRCRAFT PROCUREMENT, ARMY

Section 3

Summary of Requirements

1-12 - 1/21/80

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	FY 1979	FY 1980	FY 1981
	Actual	Estimate	Estimate
Aircraft Procurement, Army			
Aircraft	508,400	396,500	348,400
Modification of Aircraft	297,300	420,037	396,300
Spares and Repair Parts	66,909	71,300	126,500
Support Equipment and Facilities	77,100	63,200	54,100
Total Direct Program Reimbursable Program	949,709	951,037	925,300
	38,799	71,400	75,500
TOTAL PROGRAM REQUIREMENTS	988,508	1022,437	1000,800
Less: Portion of program to be obligated in subsequent fiscal years	150,618	180,135	176,976
Plus: Obligations incurred against prior year program funds	119,709	137,698	175,176
TOTAL OBLIGATIONS	957,599	980,000	999,000

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)	
Appropriation	FY 1982 Estimate
Aircraft Procurement, Army	
Aircraft	810,400
Modification of Aircraft	323,100
Spares and Repair Parts	187,300
Support Equipment and Facilities	81,500
Total Direct Program	1,402,300

AIRCRAFT PROCUREMENT, ARMY

Section 4

Budget Activity Justifications

Activity 1 - Aircraft

Activity 2 - Modification of Aircraft

Activity 3 - Spares and Repair Parts

Activity 4 - Support Equipment and Facilities

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1981 Budget
	Aircraft Procurement, Army (In Thousands of Dollars)		
	Actual	Estimate	
	Fiscal Year 1979	Fiscal Year 1980	
Budget Program or Budget Project Account			
Budget Activity 1 - Aircraft			
Direct Obligations or Direct Budget Plan			
Direct Obligation	\$ 508,400	\$ 396,500	\$ 348,400

Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters and associated aircraft armament and avionics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUIRED

This program provides for procurement of 80 utility aircraft to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$288.5 million is requested for procurement of 80 UH-60A BLACK HAWK helicopters. In addition \$ 9.5 million is requested for advance procurement of long leadtime engines. This utility helicopter is the Army's first true squad carrying helicopter and is produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK is powered by two T-700 engines produced by General Electric Company, Lynn, Massachusetts. The BLACK HAWK will modernize the Army's utility helicopter fleet and will enhance tactical mobility with increased speed, lifting capacity, range, reliability, availability, maintainability and survivability at reduced overall operating costs.

Helicopter, Attack, AH-64 - \$50.4 million is requested for advance procurement of long lead items required to support the FY 82 production initiation of the AH-64 Attack Helicopter. The AH-64 is a twin engine, two place, fully integrated anti-armor weapon system capable of killing tanks and other armored vehicles under day/night and adverse weather conditions. The aircraft employs the HELLFIRE laser seeker anti-tank missiles. Target acquisition and guidance is accomplished by an electro-optical laser package that will provide extremely accurate fires with high first round hit probability. The mobility and flexibility of the system coupled with its immediate responsiveness and integration with the ground commander will provide the combat balance required to defeat the Warsaw Pact threat.

Department of the Army Annual Budget Estimates JUSTIFICATION Budget Program or Budget Project Account	Appropriation Aircraft Procurement, Army (In Thousands of Dollars)	FY 1981 Budget
Activity 1 - Aircraft	Estimate Fiscal Year 198	
Direct Obligations or Direct Budget Plan Direct Obligations	\$ 810,400	

Section 1 - PURPOSE AND SCOPE

Provides for procurement and manufacture of airplanes, helicopters and associated aircraft armament and avionics equipment.

Section 2 - JUSTIFICATION OF FUNDS REQUIRED

This program provides for a quantity of 118 attack, utility, reconnaissance and Special Electronic Mission aircraft to meet combat, tactical training and combat support needs of the Army.

Helicopter, BLACK HAWK - \$346.8 million is requested for procurement of 96 UH-60A BLACK HAWK helicopters. In addition, \$11.4 million is requested for advance procurement of long leadtime engines and radios. This utility helicopter is the Army's first true squad carrying helicopter. BLACK HAWK will be produced by Sikorsky Aircraft, Stratford, Connecticut. The BLACK HAWK will be powered by two T-700 engines produced by General Electric Company, Lynn, MA. The BLACK HAWK will modernize the Army's utility helicopter fleet and will enhance tactical mobility with increases speed, lifting capacity, range, reliability, availability, maintainability and survivability at reduced overall operating costs.

Helicopter, Attack, AH-64 - \$311.0 million is requested for procurement of 14 AH-64 Attack Helicopters. In addition, \$88.1 million is requested for advance procurement of long lead items including engines, transmissions and mission equipment. The AH-64 is a twin engine, two place, fully integrated anti-armor weapon system capable of killing tanks and other armored vehicles under day/night and adverse conditions. The aircraft employs HELLFIRE laser seeking anti-tank missiles. Target acquisition and guidance is accomplished by an electro-optical sensor package that will provide extremely accurate fires with high first round hit probability. The mobility and flexibility of the system coupled with its immediate responsiveness and integration with the ground commander will provide the combat balance required to defeat the Warsaw Pact threat.

Airplane, GUARDRAIL - \$41.1 million is requested for 8 RC-12 GUARDRAIL reconnaissance airplanes. The RC-12 is a twin engine, turboprop airplane equipped with a SIGINT system which intercepts, locates and classifies target signals and transmits data to ground processors/facilities to provide the supported commander at Division and Corps level with real time intelligence information.

Helicopter, SOTAS - \$7.6 million is requested for advance procurement of long lead engines and airframes. The Stand-Off Target Acquisition System (SOTAS) EH-60B utilizes the BLACK HAWK airframe. SOTAS is an airborne target acquisition system which locates moving targets in the Division area of interest during day or night in most weather conditions. Information acquired is displayed in real time at ground stations to permit tracking and timely attack of targets.

1-17 1/21/80

FORMAT A

Department of the Army Annual Budget Estimates		FY 1981
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 1 - Aircraft	
<p>Section 2 - <u>JUSTIFICATION OF FUNDS REQUIRED</u></p> <p>Helicopter, Electronic, EH-60A (QUICK FIX) - \$4.4 million is requested for advance procurement of long lead time engines and airframes. The EH-60A QUICK FIX utilizes the BLACK HAWK airframe. QUICK FIX employs on-board jammers for Electronic Warfare (EW) designed to identify, locate and listen to enemy command and control radios.</p>		

1-18 - 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army	FY 1981 Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981
Budget Program or Budget Project Account			
Activity 2 - Modification of Aircraft			
Direct Obligations or Direct Budget Plan Direct Obligations		\$ 297,300	\$ 420,037 \$ 396,300

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army, including modification kits but excluding installation unless the item is furnished to a manufacturer who provides parts and labor under a single contract (excluding normal GFE) resulting in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$396.3 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability and extend the useful life of aircraft and equipment. Funds are requested for modification programs as follows:

OV-1 - \$8.8 million is requested for AN/UPD-7 radar surveillance system data link modifications, Hot Metal plus plume suppressor modification and other aircraft survivability equipment.

RC-12 - \$49.2 million is requested for modifying C-12D twin-engine, turboprop aircraft with the GUARDRAIL airborne SIGINT mission equipment. The system transmits SIGINT data to ground processors then relays processed intelligence information to G-2 subscribers to provide commanders at Division and Corps levels with real time intelligence information.

RV-1 - \$4.3 million is requested for converting older OV-1B aircraft to the RV-1D QUICK LOOK configuration with airborne ELINT mission equipment; Hot Metal plus plume suppressors modification; propeller reversing control modifications, and aircraft survivability equipment.

AH-1 - \$120.6 million is requested for completing the AH-1G to S conversion/modernization program including a fire control system and a suit of aircraft survivability features such as Hot Metal plus plume suppressors and infrared and radar jammers; and Nap-of-the-Earth (NOE) Communication equipment.

NOTE: Funding details of aircraft modifications to include the type and number of each to be modified, cost and description of the modifications are included in Section 8, Modification of Aircraft.
1-19 1/21/80

Department of the Army Annual Budget Estimates		FY 1981
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 2 - Modification of Aircraft	
Section 2 - JUSTIFICATION OF FUNDS REQUESTED		
<p>CH-47 - \$197.0 million is requested for Fiberglass Rotor Blades modifications; conversion of the T55-L-11D to T55-L-712 engine; XM-130 General Purpose Dispenser modifications; AN/ALQ-156 Missile Detector System; and the initial production of 9 aircraft in modernizing the CH-47 fleet to the Improved Operational capable CH-47D configuration.</p> <p>CH-54 - \$.2 million is requested for Improved Anti-Collision Lights modifications.</p> <p>C-12 - \$.9 million is requested for PT 6A-38 to PT 6A-41 Engine Conversion; and automatic feathering and synchronization modification to increase aircraft performance and safety.</p> <p>EH-1 - \$.5.1 million is requested to finish conversion of UH-1H helicopters to the Improved QUICK FIX IB EH-1H configuration; Hot Metal plus Plume suppressor modifications; and XM-130 General Purpose Dispenser modifications.</p> <p>OH-58 - \$.4.4 million is requested for the following modifications, improved tail rotor system and Nap-of-the-Earch (NOE) communications.</p> <p>Airborne Avionics - \$.5.8 million is requested for various airborne avionics modifications including radar altimeter, ARC-114 radios, ARN-89 Improved Beacon Identification, and improved capability of the Lightweight Doppler Navigation System, and ARC-164 radios.</p>		

FORMAT A

1-20 - 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION	FY 1981	
	Appropriation	Budget
	Aircraft Procurement, Army (In Thousands of Dollars)	Estimate Fiscal Year 1982
Budget Program or Budget Project Account		
Activity 2 - Modification of Aircraft		
Direct Obligations or Direct Budget Plan Direct Obligations		\$ 323,100

Section 1 - PURPOSE AND SCOPE

Provides for modification of items procured by the appropriation Aircraft Procurement, Army including modification kits but excluding installation unless the item is furnished to manufacturer who provides parts and labor under a single contract (excluding normal GFE) resulting in an end item reconfigured to a new series designation or new operational capability.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

\$323.1 million is requested for modification of in-service aircraft and related equipment to improve flight safety, increase operational capability, and extend the useful life of the aircraft and equipment. Funds are requested for modification programs as follows:

OV-1 - \$42.1 million is requested for the OV-1B to OV-1D configuration conversion for total force modernization and improved operational capability; AN/UPD-7 radar surveillance system RAM improved data link modifications; propeller reversing control modifications; and aircraft survivability equipment.

RV-1 - \$13.8 million is requested for converting the older OV-1B aircraft to the improved operational capable RV-1D QUICK LOCK configuration. The RV-1D provides increased performance and capability resulting from new electronic countermeasures surveillance system employed at Corps level; in-flight readout modification; airborne magnetic tape recorder modifications; and AN/ALQ-162(V)2 continuous wave radar jammer modifications.

AH-1S - \$13.7 million is requested for the following aircraft survivability modifications and product improvements: Attitude reference indicator systems; AN/ALQ-136 Radar Jammer; Laser Warning Receiver; and Nap-of-the-Earth (NOE) communications equipment.

CH-47 - \$212.2 million is requested for continuing the modernization of the fleet to the improved CH-47D configuration; and also continuing the following modification program: Fiberglass Rotor Blades, converting the T55-L-11D to 755-L-712 Engine, and the AN/ALQ-156 Missile Detector.

C-12 - \$.7 million continues the engine conversion and automatic feathering modifications and initiates the recognition light modification.

NOTE: Funding details of aircraft modifications to include the type and number of each to be modified, cost and description of the modifications are included in Section 8, Modification of Aircraft.

1-21 1/21/80

Department of the Army Annual Budget Estimates		FY 1981
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 2 - Modification of Aircraft	
<p>Section 2 - JUSTIFICATION OF FUNDS REQUESTED</p> <p>OH-58 - \$5.0 million continues the following modification programs: Improved Tail Rotor system and Nap-of-the-Earth (NOE) communications.</p> <p>Airborne Avionics - \$2.4 million continues various product improvement programs as follows: Improved MK-1564()/AR Head Set, AN/ARN-89 Improved Beacon Identification, ARC-164 Radio, and Improved capability of the Lightweight Navigation Doppler System.</p> <p>EH-1 - \$2.3 million is required for the AN/ALQ-156 Missile Detector System.</p> <p>RC-12 GUARDRAIL - \$30.9 million is required to continue modifying C-12D aircraft with the GUARDRAIL airborne SIGINT mission equipment.</p>		

1-22 - 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION		Appropriation Aircraft Procurement, Army		FY 1981 Budget
Budget Program or Budget Project Account		(In Thousands of Dollars)		
Activity 3 - Spares and Repair Parts		Actual Fiscal Year 1979	Estimate Fiscal Year 1980	Fiscal Year 1981
Direct Obligations or Direct Budget Plan Direct Obligations		\$ 66,909	\$ 71,300	\$ 126,500

Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot reparable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

This program provides for centrally managed, high dollar value, depot reparable spares and repair parts such as engines, transmissions, and gear boxes. Due to the high dollar value of these components, they are intensively managed.

Initial Provisioning - \$85.8 million provides for procurement of spares and repair parts to support initial fielding of new principal items or modifications of principal items. The "initial fielding" period normally extends 1 - 2 years past IOC (until sufficient experience has been accumulated to permit changeover to replenishment procedures).

Replenishment Spares (Peacetime) - \$31.0 million provides for procurement of spares and repair parts to support operations subsequent to initial fielding of a new or modified principal item.

Avionics Spares - \$9.7 million provides for Operational Readiness Float (ORF) Line Replaceable units required to sustain readiness of fielded aircraft and aircraft being produced.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Aircraft Procurement, Army (In Thousands of Dollars)	FY 1981 Budget
Budget Program or Budget Project Account		Estimate
Activity 3 - Spares and Repair Parts		Fiscal Year 1982
Direct Obligations or Direct Budget Plan		
Direct Obligations		\$ 187,300

Section 1 - PURPOSE AND SCOPE

Provides for procurement of depot repairable spares and repair parts including provisioning (initial issue), replenishment, mobilization reserve, and avionics spares.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Initial Provisioning - \$127.1 million provides for procurement of spares and repair parts to support initial fielding of new principal items or modifications of principal items. The "initial fielding" period normally extends 1 - 2 years past IOC (until sufficient experience has been accumulated to permit changeover to replenishment procedures).

Replenishment Spares (Peacetime) - \$51.5 million provides for procurement of spares and repair parts to support operations subsequent to initial fielding of a new or modified principal item.

Avionics Spares - \$8.7 million provides for Operational Readiness Float (ORF) Line Replaceable Units required to sustain readiness of fielded aircraft and aircraft being produced.

1-24 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION		Appropriation		FY 1981 Budget	
Budget Program or Budget Project Account		Aircraft Procurement, Army (In Thousands of Dollars)			
Activity 4 - Support Equipment and Facilities		Actual	Estimate		
Direct Obligations or Direct Budget Plan		Fiscal Year 1979	Fiscal Year 1980	Fiscal Year 1981	
Direct Obligations		\$ 77,100		\$ 63,200	
		Section 1 - PURPOSE AND SCOPE		\$ 54,100	

Provides for avionics support equipment including air traffic control equipment, avionics communications equipment and avionics maintenance shelters; for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, special test and diagnostic equipment, flight simulators and other support equipment; for industrial facilities and for war consumables.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

The request for this activity is comprised of the following items:

Avionics Support Equipment - \$3.1 million is requested for AN/TSC-61 Flight Coordination Centrals. It is a transportable unit that provides facilities for air traffic coordination, air defense warning, and in-flight assistance on a continuing basis, located in high density airfield area.

Common Ground Equipment - \$22.9 million is requested for procurement of tools and shop sets, ground handling equipment, airfield support equipment, AN/PRC-90 Survival Radios and individual items that cost less than \$9 million. Tools and Shop sets are required to fill shortages, replace obsolete equipment and implement the three level maintenance concept. Ground Handling/Servicing Equipment provides for the acquisition of self-propelled crane, rail trailer, self propelled elevating maintenance stand and engine adapters. The Airfield Support Equipment budget item provides the necessary Air Traffic Control and navigational and ground equipment to support the Army Aviation Mission at fixed Army airfields and heliports. The AN/PRC-90 Survival Radio is a compact personal emergency UHF radio set used principally for air rescue operations and provides ground-to-ground air communications and a homing signal. Individual items that cost less than \$9 million are test equipment for maintenance of Avionics, Airborne Surveillance and Air Traffic Control hardware.

Department of the Army Annual Budget Estimates		FY 1981
JUSTIFICATION		Budget
Appropriation	Budget Program or Budget Project Account	
Aircraft Procurement, Army	Activity 4, Support Equipment and Facilities	
<p>Section 2 - JUSTIFICATION OF FUNDS REQUESTED</p> <p>Industrial Facilities - \$21.5 million is requested including \$7.1 million for Provision of Industrial Facilities (PIF), \$3.8 million for Depot Maintenance Plant Equipment (DMPE) and \$10.6 million for Manufacturing Methods and Technology Program (MM&T). The PIF request provides for rehabilitating real property and industrial plant equipment at the Stratford, Conn. Army Engine Plant (AVCO Lycoming) where engines for UH-1, AH-1, CH-47, OV-1 (aircraft) and XM1 (tank) are manufactured. DMPE request provides for facilitization of Corpus Christi, TX Army Depot to assume overhaul of T-700 engine, turbine engine fuel controls, BLACK HAWK airframe repair and installation of environmental control equipment at the Depot. MM&T request will allow completion of effort on composite structures for the tail rotor, tail section and main rotors of Army helicopters. Heavy effort on improved methods for manufacturing gas turbine engines continues with emphasis on turbine blades and compressor components.</p> <p>War Consumables - \$6.6 million is requested for 7 and 19 tube 2.75 inch Lightweight Rocket launchers to be used on the AH-1 CORREA/TW and AH-64 attack helicopters.</p>		

1-26 - 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION		Appropriation		FY 1981
Budget Program or Budget Project Account		(In thousands of Dollars)		Budget
Activity 4 - Support Equipment and Facilities				Estimate
				Fiscal Year 1981
Direct Obligations or Direct Budget Plan Direct Obligations				\$ 81,500

Section - PURPOSE AND SCOPE

Provides for avionics support equipment including air traffic control equipment, for common ground equipment including tool sets, shop sets and components thereof, ground handling/servicing equipment, flight simulators and other support equipment; for component improvement; for industrial facilities; and for war consumables.

Section - JUSTIFICATION OF FUNDS REQUESTED

The request for this activity is comprised of the following items:

Avionics Support Equipment - \$3.0 million is requested as follows: \$1.6 million for procurement of AN/TSC-61 Flight Coordination centrals and \$1.4 million for Position Locating Reporting Systems (PLRS).

Common Ground Equipment - \$46.9 million is requested as follows: Tools and Shop Sets, Ground Handling Equipment, Flight Simulators, Airfield Support Equipment, and Individual items costing less than \$9 million. Tools and Shop Sets include aviation unit and intermediate maintenance shop sets, maintenance shelters to provide urgently needed equipment to fill the 3 level maintenance system. Ground Handling Equipment such as self propelled crane, rail trailers, and small portable analyzer diagnostic equipment are required to improve efficiency and safety while enhancing total Army air mobility. The AH-1 Flight/Weapons Simulator provides visual and instrument flight and gunnery simulation capable of independent or integrated crew training. The UH-60A Flight Simulator is a new generation simulator utilizing computer generated imagery visual systems. Urgently needed Airfield Support Equipment such as Control Towers and Communication Consoles are required to improve Air Traffic Control Capability at fixed Army airfields. This request replaces aging, obsolete, unreliable hard-to-maintain electronics hardware. Individual items costing less than \$9 million are test equipment for maintenance of avionics, airborne surveillance and Air Traffic Control hardware.

Industrial Facilities - \$24.9 million is requested as follows: \$10.4 million for Provisions of Industrial Facilities (PIF), \$6.1 million for Depot Maintenance Plant Equipment (DMPE), and \$8.4 million for Manufacturing Methods and Technology (MMGT). FY 82 programs are on-going and continues projects which began in prior years.

War Consumables - \$6.7 million is requested to procure 7 and 19 tube 2.75 inch Lightweight Rocket launchers for the AH-1S COBRA/TOW and AH-64 attack helicopter.

1-27 - 1/21/80

AIRCRAFT PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1980 program requirements as reflected in FY 1980 budget with FY 1980 program requirements as shown in FY 1981 budget.

Comparison of FY 1980 financing as reflected in FY 1980 budget with FY 1980 financing as shown in FY 1981 budget.

Comparison of FY 1979 program requirements as reflected in FY 1980 budget with FY 1979 program requirements as shown in FY 1981 budget.

Comparison of FY 1979 financing as reflected in FY 1980 budget with FY 1979 financing as shown in FY 1981 budget.

COMPARISON OF FY 1980 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1980 BUDGET WITH FY 1980 PROGRAM REQUIREMENTS AS SHOWN IN FY 1981 BUDGET				
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)				
Appropriation:	Total Program Requirements Per FY 80 Budget	Program Requirements Per FY 1981 Budget	Increase (+) or Decrease (-)	
Aircraft Procurement, Army				
Activity 1 - Aircraft	355,800	396,500		+40,700
Activity 2 - Modification of Aircraft	442,200	420,037		-22,163
Activity 3 - Spares and Repair Parts	71,500	71,300		- 200
Activity 4 - Support Equipment and Facilities	76,900	63,200		-13,700
	946,400	951,037		- 4,637
<u>Explanation by Activity</u>				
Activity 1 - Aircraft - Net increase is due to Congressional increase to procure 10 C-12 aircraft (+ \$12,200) and 15 AH-1 helicopters (+ \$29,500) and decrease to UH-60A helicopter program (- 1,000) for factory training.				
Activity 2 - Modification of Aircraft - Decrease is due to Congressional action to reduce the following programs: EH-60A Modifications (- \$14,500) transferred to RDTE; Antenna Coupler for AN ARC-114 radio (- \$2,900) transferred to RDTE; and EH-1 Modifications (- \$463). Decrease is also due to OH-58 Modifications (- \$4,300) transferred to MIPA (HAWK Mods reprogramming action).				
Activity 3 - Spares and Repair Parts - Net decrease is due to Congressional action to increase initial spares (+ \$500) for support of AH-1 procurement and decrease to replenishment spares (- \$700) for the Undergraduate Helicopter Pilot Training Program (UHPT).				
Activity 4 - Support Equipment and Facilities - Decrease is due to Congressional action to transfer the Component Improvement Program (- \$8,700) to RDTE. Decrease is also due to Common Ground Equipment (- \$2,500) transferred to OMA and MIPA for reprogramming actions, and Industrial Facilities (- \$2,500) being transferred to MIPA for reprogramming action.				

**COMPARISON OF FY 1980 FINANCING AS REFLECTED
IN THE FY 1980 BUDGET WITH FY 1980 FINANCING
AS SHOWN IN FY 1981 BUDGET**

Appropriation	(In Thousands of Dollars)	
	Financing Per FY 1980 Budget	Financing Per FY 1981 Budget Increase (+) or Decrease (-)
Program Requirements, (Total)	1,030,300	1,022,437
Program Requirements (Service Account)	(946,400)	(951,037)
Program Requirements (Reimbursable)	(83,900)	(71,400)
Less:		
Anticipated reimbursements	83,900	71,400
deprogramming from prior year budget plans		
Unobligated balance available from prior year to finance new budget plans		
Unobligated balance transferred from other accounts		
Add:		
Unobligated balance transferred to other accounts		
Unobligated balance available to finance subsequent year budget plans		
BUDGET AUTHORITY	946,400	951,037 + 4,637
BUDGET AUTHORITY		
Appropriation	946,400	961,837
Transfer to other accounts	-0-	-10,800
Appropriation (Adjusted)	946,400	951,037 + 4,637

EXPLANATION OF CHANGES IN FINANCING

Net changes in financing is due to Congressional actions (+ \$15,437) and DA Reprogramming Actions (- \$10,800) explained on previous page.

**COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1980 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1981 BUDGET**

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation:	Total Program Requirements		Program Requirements		Increase (+) or Decrease (-)
	Per FY 80 Budget		Per FY 1981 Budget		
Aircraft Procurement, Army					
Activity 1 - Aircraft	509,406		508,400		- 1,006
Activity 2 - Modification of Aircraft	297,200		297,300		+ 100
Activity 3 - Spares and Repair Parts	66,903		66,909		+ 6
Activity 4 - Support Equipment and Facilities	76,200		77,100		+ 900
	949,709		949,709		0

Explanation by Activity

Activity 1 - Aircraft - Decrease to UH-60A BLACK HAWK (-\$1,000) to Component Improvement Program (Activity 4).

Activity 2 - Modification of Aircraft - Increase to CH-54 Modifications (+ \$100) for Improved Anti-Collision Lights.

Activity 3 - Spares and Repair Parts - Increase due to rounding.

Activity 4 - Support Equipment and Facilities - Net change due to increase to Component Improvement Program (+ \$1,000) and decrease to Common Ground Equipment (- \$100)

**COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1980 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1981 BUDGET**

(In Thousands of Dollars)

Appropriation	Financing		Increase (+) or Decrease (-)
	Per FY 1980 Budget	Per FY 1981 Budget	
Aircraft Procurement, Army			
Program Requirements, (Total)	1,024,709	988,508	- 36,201
Program Requirements (Service Account)	(949,709)	(949,709)	(-0-)
Program Requirements (Reimbursable)	(75,000)	(38,799)	(- 36,201)
Less:			
Anticipated reimbursements	75,000	38,799	- 36,201
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred from other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	949,709	949,709	
BUDGET AUTHORITY			
Appropriation	949,709	949,709	

EXPLANATION OF CHANGES IN FINANCING

None

1-32-1/21/80

AIRCRAFT PROCUREMENT, ARMY

Section 6

Selected Data Sheets

NOT USED

1-33 - 1/21/80

AIRCRAFT PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

1-34 -1/21/80

AIRCRAFT PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1981 Program* Summary by Category

Category	Estimated Unobligated	
	Dollars (Millions)	% of total Unobligated
1. Reserved to support contracts	\$ 173.2	73.5%
2. Engineering changes	26.6	11.3%
3. Other	35.8	15.2%
	<u>\$ 235.6</u>	<u>100.0%</u>

Total Unobligated FY 1981
Explanation by Category

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY 81. Reasons for the unobligated balances here have been grouped into three general categories and are detailed below. These unobligated amounts will therefore be required in subsequent fiscal years to complete the procurement of the FY 81 program.

1. Reserved to Support Contracts:

- a. Held pending award of firm contracts as opposed to letter orders.
- b. Amounts reserved for incentive contract payments.
- c. Reimbursements to be made to the Army Stock Fund for short leadtime materiel purchase as Government-furnished equipment for producers.
- d. Amounts held to support Product Improvement Programs; modification for retrofit during production; modifications ordered by customers.
- e. Contractor claims, reserves to cover potential liabilities for contracts containing escalation clauses for labor or materiel cost increases and price redeterminations.
- f. Contract close-out costs; packing, crating, handling and packaging and loading charges.
- g. Government-furnished equipment breakout procurements; federal excise tax and sales tax payments; preparation of manuals and technical data and reserve for completion of construction elements of production base support facilities projects.
- h. Delay due to design or testing difficulties.
- i. Award protests.
- j. Insufficient procurement detail involving reimbursable orders.
- k. Develop adequate competitive procurement or technical data package.
- l. Items released to Army by other customers too late to permit obligation in FY 1981.

* Includes estimated FY 80 carry-over and other customer reimbursable programs.

AIRCRAFT PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering costs in support of production (obligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing, destructive and proving ground tests.
- d. Amounts reserved to support engineering change proposals and value engineering proposals.

3. Other:

- a. Changes to the previously planned method of procurement (i.e. competitive in lieu of sole source).
- b. Extension to bid opening dates.
- c. Additional time required to complete audits of cost data and obtain contractor cost data.
- d. Unfavorable pre-award surveys and extended negotiations.
- e. Held pending validation of production capability of low bidder.
- f. Attaining a satisfactory production rate prior to awarding additional work.

Aircraft Procurement, Army

Section 8

Modification of Aircraft

Page Number

Modification Summary Sheets

Exhibits P-3a

OV-1 MOHAWK

RC-12 GUARDRAIL

RV-1 AIRPLANE, RECONNAISSANCE

AH-1 COBRA

CH-47 CHINOOK

CH-54 TARHE

C-12 AIRPLANE, CARGO

EH-1 HELICOPTER, ELECTRONIC

OH-58 KOWA

AIRBORNE AVIONICS

1 - 42

1 - 55

1 - 59

1 - 71

1 - 87

1 - 99

1 - 102

1 - 109

1 - 116

1 - 119

CONSOLIDATED P-3a EXHIBIT

P-3a Exhibits for modifications which are to be applied to several different aircraft in FY 81/82 are included as follows:

<u>Modification</u>	<u>Aircraft to which applicable in FY 81/82</u>	<u>Page Number</u>
XM-130 General Purpose Dispenser	CH-47C, OV-1D, RV-1D, EH-1H/X.	1 - 137
NOE Communications	AH-1S, OH-58A/C (AAH covered in separate document).	1 - 143
AN/ALQ-156 Missile Detector System	OV-1D, RV-1D, CH-47C, EH-1H/X	1 - 147
AN/ALQ-162(V)2 Continuous Wave Radar Jammer	OV-1D, RV-1D	1 - 152
AN/ARC-164 Radio	OV-1	1 - 155

Aircraft Modification, Army
FY 81 President's Budget

Aircraft (Dollars in Millions)

OV-1 MOHAWK

	81		82	
	# Acft	Cost	# Acft	Cost
Conversion Program				
UPD-7 (RAM Imp) Data Link			6	25.100
Hot Metal + Plume Suppressor	7	5.600		5.227
KY-58/TSEC Voice Security	86	2.559		0
Propeller Reversing Control		.030	165	0
*XM-130 General Purpose Dispenser	26	0		.285
*ARC-164 UHF Radio Receiver	86	.522		0
*ALQ-156 Missile Detector System		.130	91	7.820
*ALQ-162(V)2 CWR Jammer		0	45	3.668
TOTAL OV-1		8.841		42.100

RC-12D

TOTAL RC-12D	8	49.200	8	30.900
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RV-1D

QUICK LOOK II Conversion			2	4.803
Hot Metal + Plume Suppressor		1.451		0
*XM-130 General Purpose Dispenser	9	1.216		0
*ALQ-156 Missile Detector System		.023	27	2.110
*ALQ-162 Radar Jammer		0	27	2.049
Propeller Reversing Control		0		.048
ALQ-133 Inflight Readout Device		1.625		2.626
ALQ-133 Mag Tape Recorder		0		2.149
TOTAL RV-1D		4.315		13.785

*Consolidated P-3a

1-39 -1/21/80

1-40 - 1/21/80

**Aircraft Modification, Army
FY 81 President's Budget**

Aircraft (Dollars in Millions)

	<u>81</u>		<u>82</u>	
	<u># Acft</u>	<u>Cost</u>	<u># Acft</u>	<u>Cost</u>
OH-58				
*Imp VHF-FM NOE Comm	262	3.126	155	1.669
Imp Tail Rotor System	125	1.274	327	3.331
TOTAL		<u>4.400</u>		<u>5.000</u>
Airborne Avionics				
APN-209 Radar Altimeter		1.933		0
Imp MK-1564/AR Head Set		0		.365
ARC-114 Homing (PIP 0034)		.600		0
ARC-114 Radio (PIP 0100)		.265		0
ARC-114 Radio (PIP 0106)		.405		0
ARN-89 Direction Finder		.950		.715
RT-1167/ARC-164 Radio		.879		.824
LDNS Improved Reliability		.768		.496
TOTAL		<u>5.800</u>		<u>2.400</u>
C-12				
Engine Conversion	30	.617	18	.391
Automatic Feather/Synchronization	30	.331	18	.210
Recognition Light & Electrical System		<u>.948</u>	66	.116
TOTAL				<u>.717</u>

*Consolidated P-3A.

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3			
Reports Control Symbol DD-COMP(AR) 1092							
APPROPRIATION: APA/2 (SSN AZ3530)				Date: Jan 80			
MODEL: OV-1D	MODIFICATION (1)	FY 19 80		FY 19 81		FY 19 82	
		Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
	OV-1D Conversion	7	7,099.0			6	25,100.0
	**AN/APS-94F	45	22,288.0				
	UPD-7 (RAM IMPROVED) Data Link		3,768.0		5,600.0		5,227.0
	**AN/ALQ-147A(V)1 Countermeasure Set	23	3,526.0				
	Hot Metal Plus Plume Suppressor	30	4,445.0	7	2,559.0		
	**Vertical Indicator Display System (VIDS)	13	496.0				
	KY-58/TSEC Voice Security	83	25.0	86	30.0		
	**Grounding Receptacles	145	11.0				
	Propeller Reversing Control					145	285.0
	*AN/APR-44 CW Radar Warning Receiver	67	1,532.0				
	*XM-130 General Purpose Dispenser	60	771.0	26	522.0		
	*AN/ARC-164 UHF Radio Receiver		111.0		130.0		
	**AN/APR-39 Radar Warning Receiver		173.0			91	7,820.0
	*AN/ALQ-156() Missile Detector System					45	3,668.0
	*AN/ALQ-162(V)2 CW Radar Jammer						
	TOTAL		44,245.0		8,841.0		42,100.0
	*Consolidated P-3a						
	** P3a not included. No FY 81/82 programs						
			1-42	1/21/80	BT 11		

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 Dec 79																					
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ3530)		MODIFICATION TITLE AND NO. OV-1D Conversion, PIP # 1-72-01-0001																									
<p>AIRCRAFT AFFECTED: OV-1B</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This modification program will modernize the older OV-1B aircraft to a standard OV-1D configuration to accept the palletized and improved IR and SLAR packages, thus, increasing the operational capability and flexibility of the OV-1 aircraft. The improved sensor will allow a single converted aircraft to be interchanged to fly either the Infrared (IR) or Side Looking Airborne Radar (SLAR) mission, thereby increasing the surveillance capability of the aircraft.</p> <p>Airframe changes will include additional airframe components of the OV-1D configuration, i.e., increased strength landing gear; increased horsepower engine and matching propellers; addition of two fuselage access doors.</p> <p>Currently the Army has in operation for surveillance the older model OV-1B equipped only for SLAR and older Model OV-1C which have only the capability for IR.</p> <p>DEVELOPMENT STATUS: Preproduction Prototype completed - December 1968 Engineering/Service Tests Completed - June 1971 Type Classified Standard - September 1972</p> <p>MILESTONES:</p> <table border="0"> <tr> <td></td> <td>FY 82</td> <td>FY 83</td> <td>FY 84</td> </tr> <tr> <td>Forecast</td> <td>Forecast</td> <td>Forecast</td> <td>Forecast</td> </tr> <tr> <td>1Q 82</td> <td>1Q 83</td> <td>2Q 83</td> <td>2Q 84</td> </tr> <tr> <td>Contract Award</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Delivery Starts</td> <td></td> <td></td> <td></td> </tr> </table>									FY 82	FY 83	FY 84	Forecast	Forecast	Forecast	Forecast	1Q 82	1Q 83	2Q 83	2Q 84	Contract Award				Delivery Starts			
	FY 82	FY 83	FY 84																								
Forecast	Forecast	Forecast	Forecast																								
1Q 82	1Q 83	2Q 83	2Q 84																								
Contract Award																											
Delivery Starts																											

1-43 - 1/21/80 81 11

FY 81 BUDGET ESTIMATE

Exhibit P-3a

OV-1D CONVERSION
PIP # 1-72-01-0001

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	PRIOR YRS		FY 77		FY 78		FY 79		FY 80		FY 81	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
GSE Flyaway		85.0		108.0		67.0		288.0		246.0		
A/C GFE		8,178.0		2,058.0		1,502.0		1,171.0		1,316.0		
AN/AYA-10	51	3,316.0	7	456.0		0		0		0		
AN/ASN-86	49	11,241.0		0	6	1,722.0	3	845.0	6	2,070.0		
AN/APS-94D	37	12,683.0		0		0		0		0		
AN/AAS-24	13	4,301.0		0		0		0		0		
Avionics/Mission		3,614.0		188.0		202.0		584.0		49.0		
GFE & Supt		1,701.0		157.0		210.0		323.0		133.0		
Non-Recur		2,000.0		0		0		0		0		
APA A/F Conv	37	17,902.0	6	3,384.0	6	4,040.0	6	4,686.0	7	3,285.0		
(OMA)		(196.0)		(17.0)								
TOTAL	37	65,021.0	6	6,351.0	6	7,743.0	6	7,897.0	7	7,009.0		-0-
TOTAL PROGRAM												
GSE/Flyaway		703.0		3,923.0						5,420.0		
A/C GFE		7,746.0		120.0						22,091.0		
AN/AYA-10								58		3,772.0		
AN/ASN-86								76		21,081.0		
AN/APS-94D								37		12,683.0		
AN/AAS-24								13		4,301.0		
Avionics/Mission										4,637.0		
GFE & Supt		1,609.0		805.0						4,938.0		
Non-Recur		1,265.0		585.0		391.0				4,241.0		
APA A/F Conv	6	8,574.0	6	9,216.0	5	8,195.0	79	59,282.0				
(OMA)		(66.0)		(55.0)		(4.0)				(338.0)		
TOTAL	6	25,100.0	6	14,649.0	5	8,586.0				142,446.0		

FY 81 BUDGET ESTIMATE

OV-1D CONVERSION
PIP # 1-72-01-0001

Exhibit P-3a

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

PRIOR YEARS	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84
Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount	Qty/Amount
37/65,021.0	6/6,351.0	6/7,743.0	6/7,897.0	7/7,099.0	0/0	6/25,100.0	6/14,649.0	5/8,586.0

TOTAL PROGRAM
Qty/Amount

79/142,446.0

METHOD OF IMPLEMENTATION: Installation will be accomplished at the contractor's plant on a production line basis.

KIT DELIVERY SCHEDULE: Not applicable.

INSTALLATION SCHEDULE:

	FY 82	FY 83	FY 84	FY 85
Inductions	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	1 1 2	1 2 1 2	1 2 1 2	1

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Jan 80
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A23530)	MODIFICATION TITLE AND NO. UPD-7 (RAM Improved) Data Link, PIP # 1-77-01-0876	

AIRCRAFT AFFECTED: OV-1D

DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. The interim data link (UPD-7) currently installed in Korea and Europe OV-1 aircraft is FY 59 vintage equipment. Accordingly, the user is experiencing extreme difficulty in maintaining the operational readiness of that system. USAREUR has stated a tactical and immediate need for state-of-the-art product improvements. Their system is currently experiencing 50 hour MTBF on some components and a 4 hour Mean Time Between Repair. This PIP replaces those high mortality components with latest state-of-the-art technology.

DEVELOPMENT STATUS: Hardware utilized are standard components of existing systems with the exception of digital encoder and decoder which contractor has developed on internal R&D funding. This PIP would procure three prototypes, and qualification Phase I retrofit kits, data, and provide Phase I (A-J) equipment and integration.

MILESTONES:	FY 77	FY 78	FY 79	FY 84	FY 85
Contract Award	Sep 77				
Qual Test Complete			3Q		
Delivery Start				2Q	
Kit Installation Start				3Q	
Kit Installation complete					3Q

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL
APA	9,625.0	894.0	294.0	3,768.0	5,600.0	5,227.0	15,479.0	15,149.0	13,330.0	69,366.0

1-46 - 1/21/80 BU 11

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 3

UPD-7 (RAM IMPROVED) DATA LINK
PIP # 1-77-01-0876

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
	Qty	Cost	Qty	Cost	Qty	Cost
Prototype/Qual	3	2,136.0				
N/R & Data		3,287.0				
Mod Kits	14	3,650.0				
Engr Support		552.0				
Aircraft FECP & Proto		141.0	294.0	247.0	463.0	674.0
Pre-Production Contr		753.0				
GFE						
Phase II Integ				2,910.0	642.0	4,553.0
A/C Kits				611.0	4,495.0	
Contracts for GFE						
Production Contr						
Installation (OMA)						
TOTAL (APA)		9,625.0	894.0	294.0	3,768.0	5,227.0
	FY 83	FY 84	FY 85	TOTAL		
	Qty	Cost	Qty	Cost	Qty	Cost
Prototype/Qual					3	2,136.0
N/R & Data						3,287.0
Mod Kits						3,650.0
Engr Supt						3,632.0
Aircraft FECP & Proto		620.0				753.0
Pre-Production Contr						2,910.0
GFE						5,806.0
Phase II Integ						4,495.0
A/C Kits	90	3,353.0			90	3,353.0
Contracts for GFE		10,111.0		13,330.0		23,441.0
Production Contr		1,395.0				15,903.0
Installation (OMA)		(586.0)		(619.0)		(1,205.0)
TOTAL		15,479.0	15,149.0	13,330.0	90	69,366.0

1-47 - 1/21/80 BJ 11

FY 81 BUDGET ESTIMATE
Exhibit P-3a
Page 3 of 3

UPD-7 (RAM IMPROVED) DATA LINK
PIP # 1-77-01-0876

METHOD OF IMPLEMENTATION: Modification of Europe and Korea assets will be by contractor's team composed of airframe and electronic contractor personnel. Balance of aircraft will be retrofitted at direct support maintenance level via MWO action. Provisions will be installed in as many conversion OV-1Ds as possible concurrent with conversion program. Aircraft provisions installed concurrent with APS-94F funding identified under ECCM for AN/APS-94F Radar.

KIT DELIVERY SCHEDULE:

	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4

Phase II A/C Mod Kits

15 15 30 30

INSTALLATION SCHEDULE:

	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4

Phase II A/C Mod Kits

15 30 15 15 15

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 3 Dec 79																																																																																				
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																																																																																								
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ3530)		MODIFICATION TITLE AND NO. Hot Metal Plus Plume Suppressor, PIP # 1-75-01-0302																																																																																						
<p>AIRCRAFT AFFECTED: OV-1D</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The Hot Metal Plus Plume Suppressor is an engine nacelle/exhaust modification which reduces the infrared (IR) signature by using ram air for cooling exhaust duct wall surfaces (hot metal) and exhaust gases (plume dilution). The suppressor system consists of airframe mod kit provisions, including covers for use in unsuppressed configuration; louvered scarfed shroud suppressor assembly (B Kit); and static covers for each engine. The IR suppressor system is required to complement the AN/AIQ-147() IR Jammer to defeat the growth threats, and will become mission essential in operations against growth threat.</p> <p>DEVELOPMENT STATUS: Engineering development contract was awarded Jun 75, ED prototype fabricated Apr 76. Contractor developmental testing and government effectiveness (IR measurements) testing is complete. Government endurance (RAM) testing was completed May 78. A TECOM Independent Evaluation Report was issued Jul 78. The ECP for the airframe provisions was approved Apr 77, and contract mod for incorporating provisions during the conversion program was awarded Aug 77.</p>																																																																																								
<p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 77 EST DATE</th> <th>FY 78 EST DATE</th> <th>FY 79 EST DATE</th> <th>FY 80 EST DATE</th> <th>FY 81 EST DATE</th> <th>FY 82 EST DATE</th> </tr> </thead> <tbody> <tr> <td>Pdn Contr Awd (Leadtime):</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Airframe Provisions</td> <td>Aug 77</td> <td>Feb 78 (5 mo)</td> <td>Feb 79 (5 mo)</td> <td>2Q 80 (5 mo)</td> <td>1Q 81 (5 mo)</td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td>Sep 78 (13 mo)</td> <td>Dec 78 (13 mo)</td> <td>2Q 80 (9 mo)</td> <td>1Q 81 (9 mo)</td> <td></td> </tr> <tr> <td>Suppressor B Kit</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Delivery Starts:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td>2Q 80</td> <td>4Q 80</td> <td>3Q 81</td> <td></td> </tr> <tr> <td>Suppressor B Kit</td> <td></td> <td></td> <td></td> <td>1Q 81</td> <td>4Q 81</td> <td></td> </tr> <tr> <td>Installation Starts:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td></td> <td>1Q 81</td> <td>4Q 81</td> <td></td> </tr> <tr> <td>Suppressor B Kit</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="7">(Installed on a mission required basis)</td> </tr> </tbody> </table>						FY 77 EST DATE	FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	FY 82 EST DATE	Pdn Contr Awd (Leadtime):							Airframe Provisions	Aug 77	Feb 78 (5 mo)	Feb 79 (5 mo)	2Q 80 (5 mo)	1Q 81 (5 mo)		Mod Kits		Sep 78 (13 mo)	Dec 78 (13 mo)	2Q 80 (9 mo)	1Q 81 (9 mo)		Suppressor B Kit							Delivery Starts:							Mod Kits			2Q 80	4Q 80	3Q 81		Suppressor B Kit				1Q 81	4Q 81		Installation Starts:							Mod Kits				1Q 81	4Q 81		Suppressor B Kit							(Installed on a mission required basis)						
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1-49 - 1/21/80 BU 11																																																																																								

FY 81 BUDGET ESTIMATE

OV-1D HOT METAL PLUS PLUME SUPPRESSOR
PIP # 1-75-01-0302

Exhibit P-3a
Page 2 of 2

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL PROGRAM
QTY	QTY	QTY	QTY	QTY	QTY	QTY
COST	COST	COST	COST	COST	COST	COST
580.0	1,727.0	1,077.0	4,445.0	2,559.0		11,248.0

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	TOTAL PROGRAM
QTY	QTY	QTY	QTY	QTY	QTY	QTY
COST	COST	COST	COST	COST	COST	COST
Non-Recurring:						
Airframe Provisions	285.0					285.0
Mod Kits		473.0				473.0
Suppressor B Kits		634.0	165.0			799.0
Recurring:						
Airframe Provisions	6	295.0	6	233.0	12	366.0
Mod Kits						17
Suppressor B Kits	5	431.0	16	1,539.0	30	3,444.0
Application:						
Mod Kits (OMA-2207)				33	(352.0)	16
TOTAL APA	580.0	1,727.0	1,937.0	4,445.0	2,559.0	(539.0)
						11,248.0

METHOD OF IMPLEMENTATION: Installation of 42 airframe provisions will be incorporated during the OV-1 cyclic overhaul and conversion programs beginning with the FY 77 funded delivery aircraft. The balance of the airframe modifications will be accomplished in the field by contract and/or depot contact teams. Installation for field application of airframe provisions is estimated at 400 man-hours. The suppressor B Kit is to be provided to the field and installed on a mission required basis. Installation time for the B Kit is estimated at 8 man-hours by AVUM level personnel.

KIT DELIVERY SCHEDULE:

FY 80	FY 81	FY 82
1	2	3
2	3	4
3	4	5
4	5	6
5	6	7
6	7	8
7	8	9
8	9	10
9	10	11
10	11	12
11	12	13
12	13	14
13	14	15
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54	55	56
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62	63	64
63	64	65
64	65	66
65	66	67
66	67	68
67	68	69
68	69	70
69	70	71
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71	72	73
72	73	74
73	74	75
74	75	76
75	76	77
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79	80	81
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82	83	84
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84	85	86
85	86	87
86	87	88
87	88	89
88	89	90
89	90	91
90	91	92
91	92	93
92	93	94
93	94	95
94	95	96
95	96	97
96	97	98
97	98	99
98	99	100

Mod Kits

INSTALLATION SCHEDULE:

Mod Kits (Field Application)

1-50 - 1/21/80 87 11

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 Dec 79																																																																				
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ3530)		MODIFICATION TITLE AND NO. KY-58/TSEC Voice Security, PIP # 1-78-01-0865																																																																								
<p>AIRCRAFT AFFECTED: OV-1</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The KY-58 (Vinson) Combat Net Security is to replace the KY-28/TSEC equipment. The KY-58/TSEC is not compatible with the KY-28/TSEC. The KY-58/TSEC through the use of an adapter will utilize the existing KY-28/TSEC wiring. The KY-58/TSEC remote control unit Z-AHP is larger than the KY-28/TSEC RCU, and therefore, it requires a MWO/Kit to reconfigure the console. Black Boxes will be procured with NSA funding and will be distributed by the same procedure currently utilized for the KY-28/TSEC.</p> <p>DEVELOPMENT STATUS: NSA has developed the KY-58/TSEC System.</p> <p>MILESTONES FOR AIRFRAME:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th style="text-align: center;">FY 78</th> <th style="text-align: center;">FY 79</th> <th style="text-align: center;">FY 80</th> <th style="text-align: center;">FY 81</th> <th style="text-align: center;">FY 82</th> </tr> <tr> <td>Contract Award for ECP Approval</td> <td style="text-align: center;">4Q</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Kits</td> <td></td> <td></td> <td style="text-align: center;">2Q</td> <td style="text-align: center;">1Q</td> <td style="text-align: center;">1Q</td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">2Q</td> </tr> <tr> <td>Kit Installation Completed</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th style="text-align: center;">FY 80</th> <th style="text-align: center;">FY 81</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">25.0</td> <td style="text-align: center;">30.0</td> <td>1/ Telecommunications Security</td> </tr> <tr> <td></td> <td></td> <td></td> <td>2/ Remote Control Unit</td> </tr> </table> <p>BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th style="text-align: center;">FY 80</th> <th style="text-align: center;">FY 81</th> <th style="text-align: center;">FY 82</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">QTY Amt</td> <td style="text-align: center;">QTY Amt</td> <td style="text-align: center;">QTY Amt</td> <td style="text-align: center;">TOTAL</td> </tr> <tr> <td>Kits</td> <td style="text-align: center;">83 25.0</td> <td style="text-align: center;">86 30.0</td> <td style="text-align: center;">169 55.0</td> <td></td> </tr> <tr> <td>Kit Application (OMA)</td> <td></td> <td style="text-align: center;">(112)(176.0)</td> <td style="text-align: center;">(57)(95.0)</td> <td style="text-align: center;">(169)(271.0)</td> </tr> <tr> <td>TOTAL</td> <td></td> <td style="text-align: center;">25.0</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">55.0</td> </tr> </table>									FY 78	FY 79	FY 80	FY 81	FY 82	Contract Award for ECP Approval	4Q					Contract Award for Kits			2Q	1Q	1Q	Kit Installation Start					2Q	Kit Installation Completed							FY 80	FY 81			25.0	30.0	1/ Telecommunications Security				2/ Remote Control Unit		FY 80	FY 81	FY 82			QTY Amt	QTY Amt	QTY Amt	TOTAL	Kits	83 25.0	86 30.0	169 55.0		Kit Application (OMA)		(112)(176.0)	(57)(95.0)	(169)(271.0)	TOTAL		25.0	30.0	55.0
	FY 78	FY 79	FY 80	FY 81	FY 82																																																																					
Contract Award for ECP Approval	4Q																																																																									
Contract Award for Kits			2Q	1Q	1Q																																																																					
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	FY 80	FY 81	FY 82																																																																							
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Kit Application (OMA)		(112)(176.0)	(57)(95.0)	(169)(271.0)																																																																						
TOTAL		25.0	30.0	55.0																																																																						

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 2

KY-58/TSEC Voice Security
PIP # 1-78-01-0865

AIRFRAME MOD KIT DELIVERIES:

FY 80				FY 81				FY 82			
1	2	3	4	1	2	3	4	1	2	3	4
20	20			20	20	20	20	25	24		

INSTALLATION SCHEDULE:

FY 80				FY 81				FY 82			
1	2	3	4	1	2	3	4	1	2	3	4
28	28	28	28	28	28	28	28	28	29		

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE JAN. 80.																													
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082																																	
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ3530)		MODIFICATION TITLE AND NO. Propeller Reversing Control, PIP # 1-79-01-1018																															
<p>AIRCRAFT AFFECTED: OV-1D</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Flight Safety. The proposed modification will improve flight safety by insuring simultaneous reversal of both propellers during the landing roll. The existing propeller reversing control circuitry has an established history of wire breakage at the propeller reversing switches mounted on the power level quadrants. Failure of either left or right circuit may cause loss of aircraft directional control. An OV-1 will be prototyped and flight tested to verify suitability of the proposed modification.</p> <p>DEVELOPMENT STATUS:</p> <p>Initiate Phase I Engineering - 4Q 79</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">MILESTONES:</td> <td style="width: 20%; text-align: center;"><u>FY 81</u></td> <td style="width: 20%; text-align: center;"><u>FY 82</u></td> <td style="width: 20%; text-align: center;"><u>FY 83</u></td> </tr> <tr> <td>Contract Award</td> <td></td> <td style="text-align: center;">3Q 82</td> <td></td> </tr> <tr> <td>Delivery Start</td> <td></td> <td style="text-align: center;">4Q 82</td> <td></td> </tr> <tr> <td>Kit Installation Start</td> <td></td> <td></td> <td style="text-align: center;">1Q 83</td> </tr> <tr> <td>Kit Installation Complete</td> <td></td> <td></td> <td style="text-align: center;">4Q 83</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; text-align: center;">FY 82</td> <td style="width: 30%; text-align: center;">TOTAL PROGRAM</td> <td style="width: 40%;"></td> </tr> <tr> <td style="text-align: center;"><u>Qty</u></td> <td style="text-align: center;"><u>Qty</u></td> <td style="text-align: center;"><u>Amt</u></td> </tr> <tr> <td style="text-align: center;">145</td> <td style="text-align: center;">285.0</td> <td style="text-align: center;">285.0</td> </tr> </table>					MILESTONES:	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	Contract Award		3Q 82		Delivery Start		4Q 82		Kit Installation Start			1Q 83	Kit Installation Complete			4Q 83	FY 82	TOTAL PROGRAM		<u>Qty</u>	<u>Qty</u>	<u>Amt</u>	145	285.0	285.0
MILESTONES:	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>																														
Contract Award		3Q 82																															
Delivery Start		4Q 82																															
Kit Installation Start			1Q 83																														
Kit Installation Complete			4Q 83																														
FY 82	TOTAL PROGRAM																																
<u>Qty</u>	<u>Qty</u>	<u>Amt</u>																															
145	285.0	285.0																															

1-53 - 1/21/80 BU 11

CLASSIFICATION

PAGE NO.
1 of 2

P-1 SHOPP LIST
ITEM NO.

Edition of 1 May 76, may be used.

2075

DPST-C Form
1 Apr 78

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 2

PROPELLER REVERSING CONTROL
PIP # 1-79-01-1018

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 82		FY 83		TOTAL PROGRAM	
	Qty	Cost	Qty	Cost	Qty	Cost
Kits	145	285.0			145	285.0
Installation (OMA)			145	(428.0)		(428.0)
TOTAL	145	285.0			145	285.0

METHOD OF IMPLEMENTATION:

Modification kits will be installed at DS Maintenance.

KIT DELIVERY SCHEDULE:

FY 82				FY 83			
1	2	3	4	1	2	3	4
			36		36	36	37

KIT INSTALLATION SCHEDULE:

FY 82				FY 83			
1	2	3	4	1	2	3	4
					36	36	36 37

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Reports Control Symbol		DD-COMPT(AR) 1092				
APPROPRIATION: APA/2 (SSN AO2008)				Date: 21 Dec 1979		
MODEL: RC-12D MODIFICATION (1)	FY 19 80		FY 19 81		FY 19 82	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Airplane Recon RC-12D			8	49,200	8	30,900
				<u>49,200</u>		<u>30,900</u>
TOTAL						

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 9 Jan 80																																													
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN 2008)	MODIFICATION TITLE AND NO. Airplane Recon, RC-12D, PIP #1-80-01-1216																																														
<p>AIRCRAFT AFFECTED: RC-12D</p> <p>DESCRIPTION/JUSTIFICATION Guardrail is a combined airborne/ground electronic system capable of intercepting and locating target communications emitters. This program will upgrade existing Guardrail V systems with and ECM resistant wideband data link, a lighter weight integrated inertial navigation system (IINS) with improved reliability, interoperability, integration and installation in a pressurized C-12 aircraft. Through these improvements, the system will gain interoperability and improved reliability and survivability in the threat environment. As a result, tactical field commanders will be provided with a higher volume of timely quality intelligence information necessary to make correct decisions on the battlefield, even under high ECM threat conditions. Upon completion of the modification effort, an upgraded Guardrail system will be available.</p> <p>DEVELOPMENT STATUS: The basic features to be incorporated by this effort have already been developed by contractor Independent Research & Development (IR&D) programs or by previous SIGINT R&D system efforts.</p>																																															
<p>MILESTONES:</p> <table border="0"> <thead> <tr> <th></th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> <th>FY 84</th> </tr> </thead> <tbody> <tr> <td>FY 81 Contract Award</td> <td>1Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Input A/C for Mod</td> <td>1Q</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Start Del A/C to Msn Contr</td> <td></td> <td>3Q</td> <td></td> <td></td> </tr> <tr> <td>FY 82 Contract Award</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Input A/C For Mod</td> <td></td> <td>1Q</td> <td></td> <td></td> </tr> <tr> <td>Start Delivery A/C to Msn Contr</td> <td></td> <td></td> <td>1Q</td> <td></td> </tr> <tr> <td>1st Sys Avail</td> <td></td> <td></td> <td>4Q</td> <td></td> </tr> <tr> <td>1st Sys Oper</td> <td></td> <td></td> <td></td> <td>1Q</td> </tr> </tbody> </table>				FY 81	FY 82	FY 83	FY 84	FY 81 Contract Award	1Q				Input A/C for Mod	1Q				Start Del A/C to Msn Contr		3Q			FY 82 Contract Award					Input A/C For Mod		1Q			Start Delivery A/C to Msn Contr			1Q		1st Sys Avail			4Q		1st Sys Oper				1Q
	FY 81	FY 82	FY 83	FY 84																																											
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1-56 - 1/21/80

DDST-C Form 1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOPP LIST

PAGE NO.

13

CLASSIFICATION

EXHIBIT P-3a

RC-12D AIRPLANE RECON
PIP #1-80-01-1216

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	FY 81		FY 82		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT
	8	49,227.0	8	30,924.0	16	80,151

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 81		FY 82		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT
APA PRIMARY						
IPF Mod						
Data Link	(1)	4,157.0	(2)	4,815.0	(3)	8972.0
SCARS	(1)	247.0	(2)	263.0	(3)	510.0
Interoperability		1,239.0	(2)	1,321.0	(3)	2560.0
Integration Mod	(1)	2,743.0	(2)	2,926.0	(3)	5669.0
ARF Mod						
Data Link	(8)	5,741.0	(8)	4,670.0	(16)	10411.0
SCARS	(8)	2,735.0	(8)	2,224.0	(16)	4959.0
Integration Mod	(8)	1,313.0	(8)	1,068.0	(16)	2381.0
AGE Mod	(1)	131.0	(2)	140.0	(3)	271.0
Aircraft Mod	(8)	5,168.0	(8)	4,166.0	(16)	9334.0
INS ASN-132	(8)	1,881.0	(3)	3,010.0	(16)	4891.0
IR Stacks	(8)	130.0	(8)	113.0	(16)	243.0
ASE	(8)	1,443.0	(8)	1,155.0	(16)	2598.0
STE	(1)	407.0	(3)	1,734.0	(4)	2,141.0
Float	(3)	672.0	-	-	(3)	672.0
Non-Recurring (Contr)		15,636.0		-		15,636.0
Data		4041.0		-		4041.0
OT Test		706.0		-		706.0
Training Equipment		-		1,500.0		1500.0
Field Support (Contr)		268.0		-		268.0
Non-Recurring (Govt)		569.0		1819.0		2388.0
TOTAL APA PRIMARY		49,227.0		30,924.0		80,151.0

FY 81 BUDGET ESTIMATE
Exhibit P-3a
Page 3 of 3

RC-12D AIRPLANE RECON
PIP #1-80-01-1216

BASIS FOR COST ESTIMATE CONT'D (Amounts in thousands of dollars)

ITEM DESCRIPTION	FY 81		FY 82		FY 83		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
(OMA) 738017 Training Acft Detachment				(955.0) (803.0)		(1,222.0) (857.0)		(2,177.0) (1,660.0)
TOTAL 738017				(1,758.0)		(2,079.0)		(3,837.0)
732207 Aircraft Installation				(280.0)		(280.0)		(560.0)

METHOD OF IMPLEMENTATION: The GUARDRAIL V system will be modified at contractor facilities.

KIT DELIVERY SCHEDULE: Not applicable.

	FY 81				FY 82				FY 83				FY 84				FY 85			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inductions (Acft)	6				2	3	3													
Completions (Delivery by Acft Contractor)								3	4	3	3	1	1	1						
Completions (Delivery by Msn Contractor)															6	6				4

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS						EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						Date: 3 Dec 79	
APPROPRIATION: APA/2 (SSN AZ2100)							
MODEL: RV-1D	MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
		Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
	Quick Look II Conversion	4	7,496.0		1,451.0	2	4,803.0
	*AN/APR-39(V) Radar Warning Receiver	22	254.0				
	Hot Metal & Plume Suppressor	10	1,782.0	9	1,216.0		
	**AN/APR-44(V) CW Radar Warning Receiver	13	398.0				
	*XM-130 General Purpose Dispenser	11	208.0		23.0		
	**Vertical Indicator Display Sys (VIDS)	4	16.0				
	**KY-58/TSEC Voice Security	9	3.0				
	*AN/ARC-164 UHF/AM Radio	9	13.0				
	**AN/USQ-61() Digital Data Set, Improved	36	1,402.0			27	2,110.0
	**AN/ALQ-147A(V)2 Countermeasures Set	4	28.0			27	2,049.0
	*AN/ALQ-156() Missile Detector System						48.0
	*AN/ALQ-162(V)2 CW Radar Jammer						2,626.0
	Propeller Reversing Control						2,149.0
	AN/ALQ-133, In Flight Readout Device				1,625.0		
	AN/ALQ-133 Airborne Magnetic Tape Recorder						
	TOTAL		11,600.0		4,315.0		13,785.0
				1-59 - 1/21/80	811 14		

*Consolidated P-3a

**P3a not included. No FY 81/82 programs

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE																																																																																																			
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082				Jan 80																																																																																																			
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ2100)		MODIFICATION TITLE AND NO. Quick Look II, PIP # 1-75-01-0306																																																																																																					
AIRCRAFT AFFECTED: OV-1B																																																																																																							
<p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. This modification will convert the OV-1B to the RV-1D configuration: Including new propulsion system, landing gear, avionics/electronics, communication, navigation and surveillance systems, ground support and test equipment. The RV-1D will provide increased aircraft and mission performance and capability resulting from the new airborne (electronic-counter-measures surveillance system.) The system is planned for employment at Corps Level.</p>																																																																																																							
<p><u>DEVELOPMENT STATUS:</u></p> <p>Engineering Development Completed - Aug 74 Testing - DT/OT II - Start Sep 74; Complete Nov 74 Type Classification - Limited Production Aug 74</p>																																																																																																							
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	FY 75	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82																																																																																															
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FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 3

QUICK LOOK II
PIP # 1-75-01-0306

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 75		FY 76		FY 77		FY 78		FY 79		FY 80	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Conversion	1	3,078.0	7	5,210.0	4	3,165.0	6	4,720.0	6	5,688.0	4	4,536.0
GFE (Acft)		2,226.0		3,032.0		0		2,852.0		2,479.0		281.0
Avionics		1,882.0		1,687.0		0		2,648.0		1,196.0		
Mission Equip												
(A) ALQ-133	5	7,525.0	5	4,702.0		0		6,511.0	8	4,505.0		0
(B) USQ-61	6	240.0	6	261.0		0		307.0	4	86.0		0
(C) USM-393/ALM-153/ALM-154	4	2,448.0		0		0		774.0	1	691.0		362.0
(D) MSA-34		0	2	290.0		0		0		0		0
Maint Van	0	81.0	5	425.0	1	65.0	4	276.0	3	222.0		
Other Equip & Spt		2,030.0		5,965.0		110.0		1,916.0		1,239.0		2,317.0
TOTAL	1	19,510.0	7	21,572.0	4	11,241.0	6	20,004.0	6	16,106.0	4	7,496.0

	FY 81		FY 82		TOTAL PROGRAM	
	Qty	Cost	Qty	Cost	Qty	Cost
Conversion		0				
GFE (Acft)		375.0				
Avionics		0		0		
Mission Equip						
(A) ALQ-133		0		0		
(B) USQ-61		0		0		
(C) USM-393/ALM-153/ALM-154		0		0		
(D) MSA-34		0		0		
Maint Van		0		0		
Other Equip & Spt		1,076.0	16	1,069.0		17,799.0
TOTAL		1,451.0				

1-61 - 1/21/80

BT 14

1/ Total quantity indicates aircraft conversions.

QUICK LOOK II
PIP # 1-75-01-0306

- (A) Re FY 75: includes 2 sets for training
- (B) Re FY 75: includes 4 sets for training
- (C) Re FY 75: includes 2 Ground Stations for training less one (1) ALM-153.
- Re FY 78: includes 1 Ground Station and One (1) ALM-153 for training
- (D) Re all FY's: includes diagnostic tapes/training/data/general test equipment/ECCM Spt/STE/target to ceiling.

METHOD OF IMPLEMENTATION: Conversion will be accomplished by the contractor.

KIT DELIVERY SCHEDULE: Not applicable.

INSTALLATION SCHEDULE:

	FY 76	FY 77	FY 78	FY 79	FY 80	FY 81
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Inductions	1 2 1	1 2 2 3	2 1 2 1	2 1 2 1	2 1 2 1	3 3 3 1
Completions		1 2 1	2 2 3 1			
	FY 82	FY 83	FY 84			
	1 2 3 4	1 2 3 4	1 2 3 4			
Inductions	2					
Completions						

FY 81 BUDGET ESTIMATE

CLASSIFICATION		FY 81 BUDGET ESTIMATE																																																								
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3 Dec 79																																																							
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ2100)	MODIFICATION TITLE AND NO. Hot Metal Plus Plume Suppressor, PIP #1-78-01-0314																																																									
<p><u>AIRCRAFT AFFECTED:</u> RV-1D</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. The Hot Metal Plus Plume Suppressor is an engine nacelle/exhaust modification which reduces the infrared (IR) signature by using ram air for cooling exhaust duct wall surfaces (hot metal) and exhaust gases (plume dilution). The suppressor system consists of airframe mod kit provisions, including covers for use in unsuppressed configuration; lowered scarf shroud suppressor assembly (B Kit); and static covers for each engine. The IR suppressor system is required to complement the AN/ALQ-147() IR Jammer to defeat the growth threats, and will become mission essential in operations against growth threats.</p> <p><u>DEVELOPMENT STATUS:</u> Engineering development contract was awarded Jun 75, ED prototype fabricated Apr 76. Contractor development testing and government effectiveness (IR measurements) testing is complete. Government endurance (RAM) testing was completed May 78. A TECOM Independent Evaluation Report was issued Jul 78. The ECP for the airframe provisions was approved Apr 77, and contract mod for incorporating provisions during the conversion program was awarded Feb 78.</p> <p><u>MILESTONES:</u></p> <table border="0"> <thead> <tr> <th></th> <th>FY 78 EST DATE</th> <th>FY 79 EST DATE</th> <th>FY 80 EST DATE</th> <th>FY 81 EST DATE</th> </tr> </thead> <tbody> <tr> <td>Pdn Contr Award (Leadtime):</td> <td>Feb 78</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Airframe Provisions</td> <td></td> <td></td> <td>2Q 80 (5 mo)</td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td>2Q 80 (9 mo)</td> <td></td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td></td> <td>2Q 80 (9 mo)</td> <td>1Q 81 (9 mo)</td> </tr> <tr> <td>Delivery Starts:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td>2Q 81</td> <td></td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td></td> <td>1Q 81</td> <td>4Q 81</td> </tr> <tr> <td>Installation Starts:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mod Kits</td> <td></td> <td></td> <td>3Q 81</td> <td></td> </tr> <tr> <td>Suppressor B Kits</td> <td></td> <td></td> <td colspan="2">(Installed on a mission-required basis)</td> </tr> </tbody> </table>					FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE	Pdn Contr Award (Leadtime):	Feb 78				Airframe Provisions			2Q 80 (5 mo)		Mod Kits			2Q 80 (9 mo)		Suppressor B Kits			2Q 80 (9 mo)	1Q 81 (9 mo)	Delivery Starts:					Mod Kits			2Q 81		Suppressor B Kits			1Q 81	4Q 81	Installation Starts:					Mod Kits			3Q 81		Suppressor B Kits			(Installed on a mission-required basis)	
	FY 78 EST DATE	FY 79 EST DATE	FY 80 EST DATE	FY 81 EST DATE																																																						
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FY 81 BUDGET ESTIMATE

RV-1D HOT METAL PLUS PLUME SUPPRESSOR
PIP # 1-75-01-0314

Exhibit P-3a
Page 2 of 2

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
	QTY	QTY	QTY	QTY	QTY	QTY
	COST	COST	COST	COST	COST	COST
	11.0	361.0	689.0	1,782.0	1,216.0	4,059.0

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

Non-Recurring:	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
Airframe Provisions	QTY	QTY	QTY	QTY	QTY	QTY
Mod Kits	COST	COST	COST	COST	COST	COST
	11.0					11.0
Suppressor B Kits		36.0				36.0
Recurring:		136.0				136.0
Airframe Provisions	6	189.0		4		10
Mod Kits				11		11
Suppressor B Kits			8	10	9	27
Application:				1,148.0	1,216.0	3,053.0
Mod Kits (OMA-2207)						
TOTAL APA	11.0	361.0	689.0	1,782.0	(117.0)	(117.0)
					1,216.0	4,059.0

METHOD OF IMPLEMENTATION: Installation of 16 airframe provisions will be incorporated during the RV-1D conversion program beginning with the number 13 delivery conversion RV-1D. The balance of the airframe modifications will be accomplished in the field by contract and/or depot contact teams. Installation time for field application of airframe provisions is estimated at 400 man-hours. The suppressor B Kit is to be provided to the field and installed on a mission required basis. Installation time for the B Kit is estimated at 8 man-hours by AVUM level personnel.

KIT DELIVERY SCHEDULE:

FY 81	4
1	2
6	3
	5

Mod Kits

INSTALLATION SCHEDULE

FY 81	4
1	2
6	3
	5

Mod Kits (Field Application)

1-64 - 1/21/80 BU 14

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 3 DEC 79																								
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092																												
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A22100)		MODIFICATION TITLE AND NO. Propeller Reversing Control, PIP # 1-79-01-1019																										
<p>AIRCRAFT AFFECTED: RV-1D</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Mission Safety. The resulting improved control circuitry for reversing propeller pitch on RV-1D (Mohawk) aircraft will insure simultaneous reversal of both propellers during the landing roll. The existing propeller reversing control circuitry has an established history of wire breakage at the propeller reversing switches mounted on the power level quadrants. Failure of either left or right circuit may cause loss of aircraft directional control. Since 1970, four OV-1 aircraft reportedly incurred major damage as a result of this type of failure; one of the Mohawks was a total loss. All non-recurring effort for the development, design, prototype and test of this modification will be funded by PIP 1-79-01-1018.</p> <p>DEVELOPMENT STATUS: Modification Kits will be installed at DS maintenance level as directed by normal priority MWO. 100 manhours is considered necessary for a kit application. Implementation of this PIP is dependent upon performance of PIP 1-79-01-1018.</p> <p>MILESTONES:</p> <table border="0"> <tr> <td></td> <td><u>FY 82</u></td> <td><u>FY 83</u></td> </tr> <tr> <td>Contract Award</td> <td>2Q 82</td> <td></td> </tr> <tr> <td>Delivery Starts</td> <td>4Q 82</td> <td></td> </tr> <tr> <td>Kits: Installation Start</td> <td></td> <td>1Q 83</td> </tr> <tr> <td>Kits: Installation Completed</td> <td></td> <td>4Q 83</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="0"> <tr> <td></td> <td><u>FY 82</u></td> <td><u>FY 83</u></td> </tr> <tr> <td>Kits</td> <td>48.0</td> <td></td> </tr> <tr> <td>Installation (O&MA)</td> <td></td> <td>(68.0)</td> </tr> </table>						<u>FY 82</u>	<u>FY 83</u>	Contract Award	2Q 82		Delivery Starts	4Q 82		Kits: Installation Start		1Q 83	Kits: Installation Completed		4Q 83		<u>FY 82</u>	<u>FY 83</u>	Kits	48.0		Installation (O&MA)		(68.0)
	<u>FY 82</u>	<u>FY 83</u>																										
Contract Award	2Q 82																											
Delivery Starts	4Q 82																											
Kits: Installation Start		1Q 83																										
Kits: Installation Completed		4Q 83																										
	<u>FY 82</u>	<u>FY 83</u>																										
Kits	48.0																											
Installation (O&MA)		(68.0)																										

1-65 - 1/21/80 81 14

Propeller Reversing Control
PIP # 1-79-01-1019

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 82		FY 83		TOTAL PROGRAM	
Kits	Qty	Cost	Qty	Cost	Qty	Cost
Installation (OMA)	27	48.0	(27)	(68.0)	27	48.0
	27	48.0			(27)	(68.0)
					27	48.0

METHOD OF IMPLEMENTATION:

Modification kits will be installed at DS Maintenance.

KIT DELIVERY SCHEDULE:

	FY 82				FY 83			
	1	2	3	4	1	2	3	4
					7	7	7	7
				6				

KIT INSTALLATION SCHEDULE:

	FY 82				FY 83			
	1	2	3	4	1	2	3	4
					6	7	7	7

CLASSIFICATION		FY 81 BUDGET ESTIMATE																																										
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3 Dec 79																																									
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN A22100)		MODIFICATION TITLE AND NO. In Flight Readout Device for ALQ-133, PIP # 1-81-01-1187																																										
<p>AIRCRAFT AFFECTED: RV-1D</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. In the present Quick Look II configuration, the aircrew has no realtime interface with or feedback from the AN/ALQ-133. The existing C-9538 Control Indicator only allows the aircrew to apply power to the system (on-off), select receiver pod(s) and monitor a set of system status indicator lights. The proposed in-flight readout device would provide the aircrew with an expanded interface with and feedback from the AN/ALQ-133.</p> <p><u>DEVELOPMENT STATUS:</u></p> <table border="0"> <tr> <td>Initiate Engineering</td> <td>1Q 81</td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>2Q 82</td> <td></td> <td></td> </tr> </table> <p><u>MILESTONES:</u></p> <table border="0"> <tr> <td></td> <td>FY 81</td> <td>FY 82</td> <td>FY 83</td> </tr> <tr> <td>Contract Award</td> <td>1Q 81</td> <td></td> <td></td> </tr> <tr> <td>Leadtime</td> <td>6 Mo</td> <td>4Q 82</td> <td></td> </tr> <tr> <td>Delivery Starts</td> <td></td> <td></td> <td>1Q 83</td> </tr> <tr> <td>Installation Starts</td> <td></td> <td></td> <td>3Q 83</td> </tr> <tr> <td>Installation Complete</td> <td></td> <td></td> <td>3Q 83</td> </tr> </table> <p><u>PROJECT FINANCIAL PLAN:</u> (Amounts in thousands of dollars)</p> <table border="0"> <tr> <td>FY 81</td> <td>FY 82</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>Qty Cost</td> <td>Qty Cost</td> <td>Qty Cost</td> </tr> <tr> <td></td> <td></td> <td>1,549.0</td> </tr> </table>				Initiate Engineering	1Q 81			ECP Approval	2Q 82				FY 81	FY 82	FY 83	Contract Award	1Q 81			Leadtime	6 Mo	4Q 82		Delivery Starts			1Q 83	Installation Starts			3Q 83	Installation Complete			3Q 83	FY 81	FY 82	TOTAL PROGRAM	Qty Cost	Qty Cost	Qty Cost			1,549.0
Initiate Engineering	1Q 81																																											
ECP Approval	2Q 82																																											
	FY 81	FY 82	FY 83																																									
Contract Award	1Q 81																																											
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Installation Complete			3Q 83																																									
FY 81	FY 82	TOTAL PROGRAM																																										
Qty Cost	Qty Cost	Qty Cost																																										
		1,549.0																																										

1-67 - 1/21/80

CLASSIFICATION

PAGE NO. 14

P-1 SHOPP LIST
ITEM NO.

DRSTS-C Form 2075 Edition of 1 May 76, may be used.

1 Apr 78

IBIT P. 3a

IN FLIGHT READOUT DEVICE FOR ALQ-133
PIP # 1-81-01-1187

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 81	FY 82	FY 83	TOTAL
	Qty	Cost	Qty	Cost
Non-Recurring		1,393.0		2,423.0
In-Flight Display Units	4	104.0	37	1,121.0
Misc Equip		52.0		52.0
Pwr Supply/Mount			37	254.0
Interface Units			37	254.0
Aircraft Kits				
Installation (OMA)				
		1,549.0		4,175.0

METHOD OF IMPLEMENTATION: A contract field team will modify airborne systems, 3 intelligence school training systems devices, and depot testing system device.

KIT DELIVERY SCHEDULE:

FY 82	FY 83
1 2 3 4	1 2 3 4
6	6

INSTALLATION SCHEDULE:

FY 83
1 2 3 4
9

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AZ2100)	MODIFICATION TITLE AND NO, Airborne Magnetic Tape Recorder for AN/ALQ-133, PIP # 1-80-01-1186		

AIRCRAFT AFFECTED: RV-ID

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The purpose of this program is the improvement of the operational and maintenance/diagnostic capabilities of the AN/ALQ-133 Non-Communications Emitter Location and Identification System, Quick Look II, mounted in RV-ID Mohawk aircraft. The current tape recorder is a non-standard, non-supportable item that does not meet operational and supportability requirements. To standardize the tape recorders used in the Quick Look program, this improvement would also replace the RD-392U tape recorder used in the AN/USM-393, AN/ALM-154 and the AN/ALM-153.

DEVELOPMENT STATUS:

Initiate Engineering 1Q 81
ECP Approval 2Q 82

MILESTONES:

Contract Award	FY 81	FY 82	FY 83
Leadtime	1Q 81		
Delivery Starts	6 Mo		
Installation Starts		4Q 82	1Q 83
Installation Complete			3Q 83

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 82	TOTAL
Qty Amt	Qty Amt

1-69 - 1/21/80

FY 81 BUDGET ESTIMATE

AIRBORNE MAGNETIC TAPE RECORDER FOR AN/ALQ-133
PIP # 1-80-01-1186

Exhibit P-3a
Page 2 of 2

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 82		FY 83		TOTAL	
	Qty	Cost	Qty	Cost	Qty	Cost
Non-Recurring						
Misc Equipment		663.0				663.0
Airframe Kits		141.0				141.0
Digital Tape Recorder	26	36.0			26	36.0
Interface Units	56	1,166.0			56	1,166.0
Installation (OMA)	52	143.0			52	143.0
TOTAL		2,149.0				

METHOD OF IMPLEMENTATION: A contract field team will modify airborne systems, 3 ground station complexes, 3 intelligence school training system devices, and 1 depot testing system device.

KIT DELIVERY SCHEDULE:

FY 82				FY 83			
1	2	3	4	1	2	3	4
			6				6

INSTALLATION SCHEDULE:

FY 83			
1	2	3	4
			9

1-70 1/21/80 BU 14

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3			
Reports Control Symbol DD-COMP(AR) 1092				Date: 3 Dec 79			
APPROPRIATION: APA/2 (SSN AA0150)							
MODEL: AH-1S	MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
		Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
AH-1 G/S Conversion/Modernization HM+P Suppressor IR Jammer, ALQ-144 Improved Attitude Heading Reference System Radar Jammer, ALQ-136 Laser Warning Receiver *NOE Communications TOTAL		160	256,480	64	109,770	-	-
		268	3,083	64	801	-	-
		160	3,976	64	1,790	-	-
		100	1,970	56	2,049	71	2,596
			10,595	50	5,130	10	3,344
		-	-	0	-0-	125	5,445
		0	296	61	1,060	193	2,315
				276,400		120,600	
Consolidated P-3a's		1-71 - 1/21/80		BU 16			

CLASSIFICATION

FY 81 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)	MODIFICATION TITLE AND NO. AH-1G/S Conversion/Modernization, PIP # 1-77-01-0479		

Aircraft Affected - AH-1G

Description/Justification: Type of Improvement - Operational Capability.

Requirement for a Point Target Weapon System (AH-1S) with Fire Control and Stores Management/Remote Fuzing was approved April 1976. Coupled with changes in the Attack Helicopter AAO, additional AH-1S aircraft are required, to be obtained through modification of remaining AH-1G aircraft. This modification includes integration of the TOW Missile System and airframe structural/power train beef-up, with remanufacture of T53-L11 engines to the T53-L-703 configuration, plus incorporation of the Improved Cockpit/Canopy, Hydraulic Pump, Rod End Bearing, and Standard Lightweight Avionics Equipment (SLAE) radios (providing compatibility with the New AH-1S production configuration); and modernization improvements including Main Rotor Hub, Particle Separator, Second Generator/Alternator, Hot Metal Plus Plume (HMP) Suppressor, Infrared (IR) Jammer, Doppler Navigation, APX-100 Transponder, Fire Control, Stores Management/Remote Fuzing, Universal Turret, Telescopic Sight Unit (TSU) Anti-Ice, Laser Rangefinder, Airborne Laser Tracker, and complete Airspeed Indicating System.

Development Status: Basic AH-1G to AH-1S conversion was developed and tested under PIPs 0420 (AH-1Q - ICAP)/and 0410/0412 (AH-1S 3 ICAM) 2/ The turret, fire control and stores management efforts are being developed to be ready for concurrent incorporation. Remaining items only required engineering for integration and application to the AH-1G/S aircraft.

Milestones:

Engineering contract award

FY 77
Jul 77

Production contract award

FY 78
Oct 77
May 78

Production leadtime - 17 mo. (basic aircraft; other items vary)

FY 79

Oct 79

FY 80

1Q FY 80

FY 81

1Q FY 81

Aircraft induction starts

Nov 78

4Q FY 79

4Q FY 80

4Q FY 81

Kit delivery starts

1Q FY 80

3Q FY 80

3Q FY 81

3Q FY 82

Kit installation aircraft delivery starts

1Q FY 80

3Q FY 80

3Q FY 81

3Q FY 82

Aircraft induction completed

4Q FY 79

4Q FY 80

4Q FY 81

1Q FY 82

Kit delivery completed

2Q FY 80

2Q FY 81

2Q FY 82

4Q FY 82

Kit installation aircraft delivery completed

2Q FY 80

2Q FY 81

2Q FY 82

4Q FY 82

1/ Improved Cobra Armament Program

2/ Improved Cobra Agility and Maneuverability

DDST-C Form
1 Apr 78

2075 Edition of 1 May 76, may be used.

P-1 SHOPPLIST
ITEM NO.

PAGE NO.

1-72 - 1/21/80 BU 16

CLASSIFICATION

EXHIBIT P-3a

FY 81 BUDGET ESTIMATE

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION		DATE		3 Dec 79						
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO.									
APA/2 (SSN AA0150)		AH-1G/S Conversion/Modernization, PIP # 1-77-01-0479									
BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)											
		FY 77	FY 78	FY 79	FY 80	FY 81	Total				
		Qty	Cost	Qty	Cost	Qty	Cost				
NON-RECURRING:											
Prod Engr/Tooling/Data/Pubs (Basic)	3,997.0		20,345.0	2,425.0	3,095.0	745.0	30,607.0				
Prod Engr/Tooling/Data/Pubs (GFE)			5,033.0	4,825.0	1,993.0	945.0	12,796.0				
Competitive Source Qual-Subsystems					4,259.0		4,259.0				
Training Hardware			2,355.0	2,106.0	4,885.0	1,786.0	11,132.0				
Total Nonrecurring	3,997.0		27,733.0	9,356.0	14,232.0	3,476.0	58,794.0				
RECURRING:											
Air Vehicle											
Airframe Conversion Kit	11		2,039.0	137	22,705.0	160	30,518.0	64	13,726.0	372	68,988.0
Integration	11		4,651.0	137	27,314.0	160	33,757.0	64	16,506.0	372	82,228.0
STE/PGSE/Trainer Mod					1,250.0	8,295.0	9,627.0			19,172.0	
T53-L-703 Engine Remanufacture	42		4,575.0	195	24,918.0	191	28,650.0*			428	58,143.0
Fuel Controls/Governors	70		861.0	195	2,623.0	147	2,014.0*			412	5,498.0
Particle Separator				237	498.0	191	430.0			428	928.0
Weapons/Armament/Fire Control											
TOW Missile System	11		2,290.0	137	31,859.0	160	37,709.0	64	20,855.0	372	88,813.0
Laser Rangefinder	11		385.0	137	5,439.0	160	6,283.0	64	2,698.0	372	14,805.0
TSU Launcher Anti-Ice				148	20.0	160	36.0	64	7.0	372	63.0
STE/PGSE/IES					5,426.0	8,772.0	6,903.0			21,101.0	
*Includes program buy-out.											
				1-73 - 1/21/80		R11		16			

*Includes program buy-out.

1-73 - 1/21/80 BJ 16

ORST-C Form 1 Apr 78	2075	Edition of 1 May 76, may be used.	P-1 SHOPP LIST ITEM NO.	PAGE NO.	CLASSIFICATION
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FY 81 BUDGET ESTIMATE

CLASSIFICATION		AIRCRAFT MODIFICATION				DATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		MODIFICATION TITLE AND NO. AH-1G/S Conversion/Modernization, PIP # 1-77-01-0479				3 Dec 79	
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)							
		FY 77		FY 78		FY 79	
		Qty	Cost	Qty	Cost	Qty	Cost
		FY 80		FY 81		TOTAL	
		Qty	Cost	Qty	Cost	Qty	Cost
Helmet Sight Subsystem		11	163.0	154	2,526.0	180	3,663.0
Universal Turret		11	850.0	137	10,138.0	165	14,850.0
Guns, Feeders		11	191.0	177	3,782.0	200	4,627.0
Rocket Mgt Subsystem		11	350.0	137	3,425.0	165	4,501.0
10KVA Alternator		11	175.0	137	2,055.0	165	2,701.0
STE/PGSE					1,693.0		2,305.0
Fire Control Computer		11	385.0	137	4,110.0	165	6,600.0
Heads Up Display		11	410.0	137	4,384.0	165	6,930.0
Low Airspeed System		11	310.0	137	2,740.0	165	4,455.0
STE/PGSE					2,847.0		1,487.0
Avionics							
ALT AAS-32				30	1,971.0	180	12,060.0
Float						25	1,675.0
Doppler ASN-128		11	304.0	137	3,887.0	160	4,197.0
Float				20	567.0	30	786.0
APX-100 Transponder		50	686.0	98	1,186.0	160	2,057.0
Float				20	242.0	30	260.0
SLAE Pkg (ARC-114/115/164)				148	1,962.0	160	1,785.0
Float				20	265.0	30	335.0
Cockpit Instrumentation		50	1,424.0	98	2,323.0	160	4,179.0
Float				20	474.0	30	784.0
Static Inverter, MS-17406		11	26.0	137	327.0	160	496.0
STE/PGSE					384.0		1,173.0

1-74 - 1/21/80 811 16

ORIS-C Form 1 Apr 78 2075 Edition of 1 May 76, may be used.

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

CLASSIFICATION

EXHIBIT P-3a

FY 81 BUDGET ESTIMATE

CLASSIFICATION	REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 3 Dec 79
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APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)	MODIFICATION TITLE AND NO. AH-1G/S Conversion/Modernization, PIP # 1-77-01-0479
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	FY 77		FY 78		FY 79		FY 80		FY 81		Total	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Government Engineering Support												
TSARCOM/AVRADCOM				NSP		345.0		435.0		406.0		1,186.0
MIRCOM/MIRADCOM				NSP		445.0		1,220.0		1,023.0		2,688.0
ARRCOM/ARADCOM				NSP		245.0		720.0		251.0		1,216.0
CERCOM/ERADCOM/LABS				NSP		1,043.0		1,503.0		419.0		2,965.0
ASE (Non-add; separate P-3a's)												
HM+P Suppressor				050.0		999.0		3,083.0		801.0		4,933.0
IR Jammer ALQ-144				(50.0)		7,536.0		3,976.0		1,790.0		13,302.0
						(8,535.0)		(7,059.0)		(2,591.0)		(18,235.0)
TOTAL RECURRING			11	20,075.0	137	175,418.0	160	242,248.0	64	106,294.0	372	540,135.0
TOTAL AH-1G/S MODERNIZATION		3,997.0		47,808.0		184,774.0		256,480.0		109,770.0		598,929.0

METHOD OF IMPLEMENTATION: Complete modification (concurrent installation of all items) in conjunction with aircraft overhaul -- separate maintenance and repair (MAR) program established.

INSTALLATION/DELIVERY SCHEDULE:

	FY 79			FY 80			FY 81			FY 82		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Aircraft Induction		5	12	24	39	38	45	37	45	38	45	37
Aircraft Output					5	8	23	31	38	45	37	38
											45	45
											14	

1-75 - 1/21/80 BII 16

DRSTS-C Form 1 Apr 78	2075	Edition of 1 May 76, may be used.	P-1 SHOPPLIST ITEM NO.	PAGE NO.	CLASSIFICATION
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FY 81 BUDGET ESTIMATE

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE																																		
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)	MODIFICATION TITLE AND NO. Hot Metal + Plume Suppressor 1-78-01-0408 (b PIP to 0479)		3 AUG 79																																		
<p>AIRCRAFT AFFECTED: AH-1S</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The Hot Metal Plus Plume Suppressor will add an insulated up-turned exhaust pipe and ejector/mixer to draw in air and mix with hot exhaust gases. This will reduce the aircraft's vulnerability to IR₂ detection and IR homing missiles especially in low speed flight.</p> <p>DEVELOPMENT STATUS: ED Contract Complete - 4Q FY 79 DT/OT II - 4Q 79</p> <p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> </tr> </thead> <tbody> <tr> <td>Production Contract Award</td> <td>Oct 78</td> <td>1Q FY 80</td> <td>1Q FY 81</td> </tr> <tr> <td>Production Lead Time</td> <td>12 months</td> <td>12 months</td> <td>12 months</td> </tr> <tr> <td>Deliveries Start</td> <td>1Q FY 80</td> <td>1Q FY 81</td> <td>1Q FY 82</td> </tr> </tbody> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th></th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>TOTAL PROGRAM</th> </tr> </thead> <tbody> <tr> <td>Float</td> <td>50.0</td> <td>999.0</td> <td>2,490.0</td> <td>801.0</td> <td>4,340.0</td> </tr> <tr> <td>Total</td> <td>50.0</td> <td>999.0</td> <td>3,083.0</td> <td>801.0</td> <td>4,933.0</td> </tr> </tbody> </table> <p>2/ Infra Red</p>						FY 79	FY 80	FY 81	Production Contract Award	Oct 78	1Q FY 80	1Q FY 81	Production Lead Time	12 months	12 months	12 months	Deliveries Start	1Q FY 80	1Q FY 81	1Q FY 82		FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM	Float	50.0	999.0	2,490.0	801.0	4,340.0	Total	50.0	999.0	3,083.0	801.0	4,933.0
	FY 79	FY 80	FY 81																																			
Production Contract Award	Oct 78	1Q FY 80	1Q FY 81																																			
Production Lead Time	12 months	12 months	12 months																																			
Deliveries Start	1Q FY 80	1Q FY 81	1Q FY 82																																			
	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM																																	
Float	50.0	999.0	2,490.0	801.0	4,340.0																																	
Total	50.0	999.0	3,083.0	801.0	4,933.0																																	

DDST-C Form 1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

1-76 - 1/21/80

811 16

CLASSIFICATION

EXHIBIT P-3a

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 2

Hot Metal + Plume Suppressor
1-78-01-0408

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COSTS
Suppressors			93	963.0	215	2,423.0	64	801.0	372	4,187.0
Non Recurring Eng		50.0		36.0		67.0				153.0
FLOAT					53	593.0			53	593.0
TOTAL		50.0		999.0		3,083.0		801.0		4,933.0

METHOD OF IMPLEMENTATION: Provisions to accept the installed HMP Suppressor will be installed by contractor during AH-1 G to S Mod program PIP 0479. Dollars and schedules are included in the PIP. The suppressor, as designed, is to be installed as one complete system.

BU 16

1-77 - 1/21/80

FY 81 BUDGET ESTIMATE

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 AUG 79																																									
APPROPRIATION/BUDGET ACTIVITY APA/2		(SSN: AA0150 AH-1S)		MODIFICATION TITLE AND NO. AN/ALQ-144, Omni-Directional Infrared Jammer																																											
				1-78-01 0856(AH-1S)																																											
<p>AIRCRAFT AFFECTED: AH-1S</p> <p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/ALQ-144 is an Omni-directional infrared jammer designed to protect Army aircraft from infrared homing (E.G. heat seeking missiles).</p> <p>DEVELOPMENT STATUS: DT/OT II Complete - Oct 77 DEVA IPR - Jun 78 1st Prod Awd - Jun 79</p> <p>MILESTONES:</p> <table border="0"> <tr> <td>ECP/MWO - Complete</td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> </tr> <tr> <td>Cont Awd Mod Kits</td> <td></td> <td>3Q FY 80</td> <td></td> </tr> <tr> <td>Prod Lead Time</td> <td></td> <td>6 months</td> <td></td> </tr> <tr> <td>Kit Del Starts</td> <td></td> <td>1Q FY 81</td> <td></td> </tr> <tr> <td>AN/ALQ-144 Cont Awd</td> <td>Jun 79</td> <td>2Q FY 80</td> <td>2Q FY 81</td> </tr> <tr> <td>Prod Lead Time</td> <td>12 months</td> <td>12 months</td> <td>12 months</td> </tr> <tr> <td>Del Starts</td> <td>3Q FY 80</td> <td>2Q FY 81</td> <td>2Q FY 82</td> </tr> </table> <p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="0"> <tr> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td>COST</td> <td>COST</td> <td>COST</td> <td>COST</td> </tr> <tr> <td>7,536.0</td> <td>3,976.0</td> <td>1,790.0</td> <td>13,302.0</td> </tr> </table>								ECP/MWO - Complete	FY 79	FY 80	FY 81	Cont Awd Mod Kits		3Q FY 80		Prod Lead Time		6 months		Kit Del Starts		1Q FY 81		AN/ALQ-144 Cont Awd	Jun 79	2Q FY 80	2Q FY 81	Prod Lead Time	12 months	12 months	12 months	Del Starts	3Q FY 80	2Q FY 81	2Q FY 82	FY 79	FY 80	FY 81	TOTAL PROGRAM	COST	COST	COST	COST	7,536.0	3,976.0	1,790.0	13,302.0
ECP/MWO - Complete	FY 79	FY 80	FY 81																																												
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COST	COST	COST	COST																																												
7,536.0	3,976.0	1,790.0	13,302.0																																												

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 2

AN/ALQ-144 Omni-Directional Infrared Jammer
1-78-01-0856(AH-1S)

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	<u>FY 79</u>		<u>FY 80</u>		<u>FY 81</u>		<u>TOTAL PROGRAM</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
ALL-1S								
AN/ALQ-144	148	3,179.0	160	3,436.0	64	1,790.0	372	8,405.0
STE	16	149.0	14	140.0			30	289.0
Non-Recurring		2,920.0		400.0			60	3,320.0
FLOAT	60	1,288.0						1,288.0
TOTAL		<u>7,536.0</u>		<u>3,976.0</u>		<u>1,790.0</u>		<u>13,302.0</u>

METHOD OF IMPLEMENTATION: Provisions to accept the AN/ALQ-144 will be installed during AH 1 G to S mod program, PIP 0479. Dollars and schedules are included in the PIP.

BASIS FOR COST ESTIMATE:

	<u>FY 79</u>		<u>FY 80</u>		<u>FY 81</u>		<u>TOTAL PROGRAM</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
AN/ALQ-144 Systems	148	3,179.0	160	3,436.0	64	1,790.0	372	8,405.0
STE	16	149.0	19	140.0			30	289.0
Non-Recurring		2,920.0		400.0				3,320.0
AF Mod Kits	60	1,288.0					60	1,288.0
FLOAT								
TOTAL		<u>7,536.0</u>		<u>3,976.0</u>		<u>1,790.0</u>		<u>13,302.0</u>

REPORT'S CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT	MODIFICATION	DATE
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0150)		MODIFICATION TITLE AND NO. Improved Attitude Heading Reference System PIP#1-80-01-0923	

Aircraft Affected - AH-1S

Description/Justification: Type of Improvement - Operational Capability
The Improved Attitude Heading Reference System (AHRS) will provide the modernized AH-1S with a high accuracy heading input to the AN/ASN 128 Doppler for tactical nap-of-the-earth (NOE) battlefield operations.

Development Status: Qualification of prototype units, system tests and initial flight qualification will be accomplished by the contractor.

Milestones:

Engineering Contract Award
Production Contract Award
Kit Delivery Starts
First Kit Applied
Kit Installation Complete

	FY 81	FY 82
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2081
1082

1082 4082

1082

4084

Project Financial Plan:

	FY 80	FY 81	FY 82
	<u>1,970.0</u>	<u>2,049.0</u>	<u>2,596.0</u>

Project Financial Plan:

(Amounts in thousands of dollars)

FY 80	FY 81	FY 82	FY 83
QTY	QTY	QTY	QTY
AMT	AMT	AMT	AMT

Non-Recurring:

Engineering Design	-	1,008.0
Testing	-	962.0
Other	-	

Recurring:

AHRS	56	1,805.0	71	2,454.0
Kits	49	105.0	62	142.0

1-80 - 1/21/80

P-1 SHOPP LIST	PAGE NO.
ITEM NO.	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
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100	100

CLASSIFICATION

EXHIBIT P-38

	<u>FY 80</u>		<u>FY 81</u>		<u>FY 82</u>		<u>FY 83</u>	
	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>	<u>QTY</u>	<u>AMT</u>
Installation (OMA)					31	(54.8)	80	(151.4)
TOTAL	-	1,970.0		2,049.0		2,596.0		

Method of Implementation: Kits will be installed in the field by contractor teams. Installation is estimated at 40 hours per aircraft.

Delivery Schedule:

Kits	<u>FY 82</u>		<u>FY 83</u>		<u>FY 84</u>	
	<u>1</u>	<u>2 3 4</u>	<u>1</u>	<u>2 3 4</u>	<u>1</u>	<u>2 3 4</u>
	5	15 20 20	20	20 11		

Installation Schedule:

Field Installation	<u>FY 82</u>		<u>FY 83</u>	
	<u>1</u>	<u>2 3 4</u>	<u>1</u>	<u>2 3 4</u>
		11 20	20	20 20 20

CLASSIFICATION		FY 81 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN: AA0150)	MODIFICATION TITLE AND NO. AN/ALQ-136(V)1 Radar Jammer, PIP #: 1-79-01-0976		
AIRCRAFT AFFECTED: AH-1S			
DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The AN/ALQ-136 (XE-2) Radar Jammer is designed to provide protection for AH 1S aircraft against radar directed air defense threat weapons. System consists of a receiver/transmitter unit, an antenna system, an operator control unit and an installation kit.			
DEVELOPMENT STATUS: DT/OT II - Complete 4Q 79 DEVA IPR - 1Q 80			
MILESTONES:			
Engr Initialed	FY 79	FY 80	FY 81
ECP Approval	4Q 79		
Mod Kit Contract Award	3Q 80		1Q 81
Production Lead Time		3Q 80	4 months
Mod Kit Delivery Start		1Q 81	3Q 81
Kit Installation, Start		1Q 81	3Q 81
GE Contract Award		1Q 80	3Q 81
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)			
FY 79	FY 80	FY 81	FY 83
QTY	QTY	QTY	QTY
COST	COST	COST	COST
765.0	10,595.0	5,130.0	3,344.0
			6,916.0
TOTAL PROGRAM			
FY 84			
QTY			
COST			
700.0			
			27,450.0

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 3

AN/ALQ-136(V)1 Radar Jammer
1-79-01-0976

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 79	FY 80	FY 81	FY 82
	QTY COST	QTY COST	QTY COST	QTY COST
Non-Recurring				
AN/ALQ-136 Systems		1,705.0	420.0	194.0
STE		100 6,776.0	50 3,575.0	10 1,154.0
ECP MWO/A Kits	765.0	1,680.0	671.0	
A Kit Installations (OMA)		162 434.0	164 464.0	156 866.0
Float AN/ALQ-136 Sys			(172) (299.0)	(240) (442.0)
TOTAL	765.0	10,595.0	5,130.0	15 1,130.0
				3,344.0

	FY 83	FY 84	FY 85
	QTY COST	QTY COST	QTY COST
Non-Recurring			
AN/ALQ-136 Systems	50 811.0		
STE		745.0	
ECP/MWO A Kits	189 593.0	288 700.0	
A Kit Installations (200) (OMA)	(389.0) (OMA)	(195) (400.0)	(152) (330.0)
FLOAT AN/ALQ-136 Sys	10 795.0		
TOTAL	6,916.0	700.0	

TOTAL PROGRAM

	QTY	COST
Non-Recurring		3,130.0
AN/ALQ-136 Systems	210	15,477.0
STE		3,096.0
ECP/MWO A Kits	959	3,822.0
A Kit Installations (959) OMA	(1,860.0)	
Float AN/ALQ-136 Sys	25	1,925.0
TOTAL		27,450.0

1-83 - 1/21/80 BU 16

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 3 of 3

AN/AIQ-136(V)1 Radar Jammer
1-79-01-0976

METHOD OF IMPLEMENTATION: Modifications will be applied by depot and contractor teams.

A Kit Delivery Schedule:

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
		40 50 60 60	60 56 50 50	56 50 50 50	39 60 60 60	60 48

A Kit Installation Schedule:

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
		30 25 58 59	60 60 60 60	50 50 50 50	45 50 50 50	50 50 52

<u>CLASSIFICATION</u>		<u>REPORTS CONTROL SYMBOL</u> DD-COMP (AR) 1092		<u>AIRCRAFT MODIFICATION</u>		<u>DATE</u> 3 Dec 79
<u>APPROPRIATION/BUDGET ACTIVITY</u> APA/2 (SSN: AA0150)		<u>MODIFICATION TITLE AND NO.</u> AN/AVR-2, Laser Warning Receiver, PIP# 1-80-01-0984				
<u>AIRCRAFT AFFECTED:</u> AH-1S <u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. The Laser Warning Receiver System is designed to functionally integrate with the AN/APR-39 Radar Warning Receiver to detect laser threat energy directed at aircraft and to provide audio and visual warning.						
<u>DEVELOPMENT STATUS:</u> ED Contract Award- 1Q FY 80 DT/OT II - 3Q FY 81 DEVA IPR - 2Q FY 82						
<u>MILESTONES:</u> Contract Award ECP ECP Approval Cont Awd - A Kits Prod Lead Time Kit Del Start Kit Installation Start						
<u>PROJECT FINANCIAL PLAN:</u> (Amounts in thousands of dollars)						
		<u>FY 81</u> <u>QTY</u> <u>COST</u>	<u>FY 82</u> <u>QTY</u> <u>COST</u>	<u>FY 83</u> <u>QTY</u> <u>COST</u>	<u>TOTAL PROGRAM</u> <u>COST</u>	
		-0-	5,445.0	7,541.0	12,986.0	

1-85 - 1/21/80 811 16

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 3

AN/AVR-2, Laser Warning Receiver
1-80-01-0984

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>
	<u>QTY</u>	<u>COST</u>	<u>QTY</u> <u>COST</u>
ECP/MWO			
Non-Recurring		1,318.0	409.4
AN/AVR-2 Systems	125	529.5	150 4,840.6
STE		713.6	154.0
Airframe Mod Kits	175	2 883.9	375 1,737.0
Installation (OMA)			(350) (607.6)
TOTAL		-0- 5,445.0	7,541.0

TOTAL PROGRAM

	<u>FY 84</u>	<u>QTY</u> <u>COST</u>
ECP/MWO		
Non-Recurring		1,727.4
AN/AVR-2 Systems	275	5,370.1
STE		867.6
Airframe Mod Kits	550	4,620.9
Installation (OMA)	(550)	(974.4)
TOTAL		12,986.0

METHOD OF IMPLEMENTATION: Airframe modification kits will be installed in the field by depot or commercial contract teams. Installation is estimated at 40 hours per aircraft.

1-86 - 1/21/80

BJ 16

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 3 of 3

AN/AVR-2, Laser Warning Receiver
1-80-01-0984

DELIVERY SCHEDULE:

	<u>FY 83</u>		<u>FY 84</u>
1	2 3 4	1	2 3 4
100	100 100 50	100	100

Kits

INSTALLATION SCHEDULE:

	<u>FY 83</u>		<u>FY 84</u>
1	2 3 4	1	2 3 4
75	75 100 100	100	100

Field Installation

1-86a - 1/21/80

BU 16

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Report Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN AA0250)				Date: 3 Dec 79		
MODEL: CH-47 MODIFICATION (1)	FY 19 80		FY 19 81		FY 19 82	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
CH-47C Fiberglass Rotor Blades Conversion of T55-L-11D to T55-L-712 Engine * T55-L-11 ASA Wide Chord Blade * XM-130 General Purpose Dispenser * AN/AO-156 Missile Detector System CH-47D Modernization TOTAL CH-47	27	21,945.0	77	25,620.0	92	26,000.0
	44	10,251.0	56	12,038.0	65	14,887.0
	95	Q,702.0***	100	3,472.0	87	8,496.0
	110	Q,998.0***	130	9,467.0	19	162,771.0
		27,432.0	9	146,367.0		212,154.0
		59,628.0		196,964.0		

* Consolidated P3a

** P3a not included. No 81/82 program.

*** FY 80 below threshold reprogramming

FY 81 BUDGET ESTIMATE

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 Dec 79
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APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0250)		MODIFICATION TITLE AND NO. CH-47C Fiberglass Rotor Blades, PIP # 1-77-01-0816				
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AIRCRAFT AFFECTED: CH-47C

DESCRIPTION/JUSTIFICATION: Type of Improvement - Reliability and Maintainability. This PIP allows for equipment of the CH-47C fleet with fiberglass rotor blades, thereby reducing the requirements for procurement of higher price metal blades with their associated high life cycle costs. It will also increase safety, survivability and reduce vulnerability and maintenance man-hours for the CH-47C.

DEVELOPMENT STATUS:

Design Completion Date	Feb 76
Prototype Completion Date	Feb 78
Testing Complete	Mar 79

MILESTONES:

Engineering Initiated	Sep 77	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83
Flight Qualification Complete	Mar 79							
Contract Award for Formal ECP								
Formal ECP Approval				Jun 79				
Long Lead Time Items				4Q FY 79				
Production Contract Award				Jun 79				
Delivery Starts					1Q FY 80	1Q FY 81	1Q FY 82	1Q FY 83
Installation Completed					1Q FY 80	1Q FY 81	1Q FY 82	1Q FY 83
					1Q FY 82	2Q FY 82	2Q FY 83	3Q FY 84
					3Q FY 82	3Q FY 83	4Q FY 84	1Q FY 85

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 77	FY 78	FY 79	FY 80	FY 81	FY 82
Qty	Cost	Qty	Cost	Qty	Cost
4,243.0	900.0	9,600.0	27	21,945.0	77
					25,620.0
					92
					26,000.0

1-88 1/21/80 BU 17

DRSAV-C Form 1 May 76	2075	P-1 SHOPPLIST ITEM NO.	PAGE NO. 01	CLASSIFICATION
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EXHIBIT P-3A

FY 81 BUDGET ESTIMATE

Exhibit P-3A
Page 2 of 4

CH-47C FIBERGLASS ROTOR BLADES
PIP # 1-77-01-0816

PROJECT FINANCIAL PLAN (CONT'D): (Amounts in thousands of dollars)

FY 83			Total
Qty	Cost	Qty	Cost
14	4,633.0	210	92,941.0

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 77		FY 78		FY 79		FY 80	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items								
Shipsets of Blades 1/	8*	814.0				860.0	27	2,240.0
MWO Kits							(57)	7,244.0
Non-recurring								1,472.0
Tooling						4,172.0		7,571.0
GSE						324.0		1,175.0
Other		3,429.0		900.0		4,244.0		2,243.0
(OMA)								
Recurring								(159.0)
Non-recurring								
Installation								
TOTAL								
				900.0		9,600.0		21,945.0
		4,243.0						

* Prototype Blades

1/ Shipset = 6 blades

1-89 - 1/21/80 BU 17

FY 81 BUDGET ESTIMATE

Exhibit P-3A
Page 3 of 4

CH-47C FIBERGLASS ROTOR BLADES
PIP # 1-77-01-0816

BASIS FOR COST ESTIMATE (CONT'D): (Amounts in thousands of dollars)

	FY 81	FY 82 ^{2/}	FY 83 ^{2/}	FY 84
	Qty	Cost	Qty	Cost
Long Lead Time Items				
Shipsets of Blades	77	3,138.0		
MWO Kits	(60)	19,763.0	92	23,613.0
Non-recurring		1,591.0	(60)	1,700.0
Tooling				3,641.0
GSE				992.0
Other				
(OMA)		1,128.0		208.0
Recurring				
Non-recurring				(2,224.0)
Installation				(3,655.0)
TOTAL	77	25,620.0	92	(735.0)
			(55)	(1,271.0)
			90	(58)
			14	(864.0)
				4,633.0

	FY 85	Total
	Qty	Cost
Long Lead Time Items		
Shipsets of Blades	210	6,717.0
MWO Kits	(210)	55,075.0
Non-recurring		5,755.0
Tooling		11,743.0
GSE		1,499.0
Other		12,152.0
(OMA)		
Recurring		(30.0)
Non-recurring		(7,285.0)
Installation		(159.0)
TOTAL	(7)	(110.0)
		(210)
		(2,980.0)
		92,941.0

1-90 - 1/21/80 81 17

2/ See page 4 of 4

FY 81 BUDGET ESTIMATE

Exhibit P-3A
Page 4 of 4

CH-47C FIBERGLASS ROTOR BLADES
PIP # 1-77-01-0816

METHOD OF IMPLEMENTATION: Application will be accomplished at aircraft user locations by depot teams.
Estimated installation time per kit is 400 hours.

	FY 82	FY 83	FY 84	FY 85	TOTAL
	1 2 3 4	1 2 3 5	1 2 3 4	1 2 3 4	
Kit Delivery Schedule	16 16 16 16	16 32 16 32	16 16 16 2		210
Installation Schedule					
Induction	10 15 15 15	23 22 23 22	15 13 15 15	7	210
Completion	10 15 15 15	23 22 23 22	15 13 15 15	7	210

AD-A082 805

DEPUTY CHIEF OF STAFF FOR RESEARCH DEVELOPMENT AND AC--ETC F/6 15/5
DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR FISCAL YE--ETC(U)
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CLASSIFICATION		FY 81 BUDGET ESTIMATE																																																																																																																																																																											
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 3 Dec 79																																																																																																																																																																											
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0250)	MODIFICATION TITLE AND NO. Conv. of T55-L-11D to T55-L-712, PIP # 1-78-01-0700																																																																																																																																																																												
<p><u>AIRCRAFT AFFECTED:</u> CH-47C</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Reliability and Maintainability. This PIP provides hardware for a long life (RAM-D) engine. It also provides hardware for emergency power conditions. This hardware will make up an engine identified as the T55-L-712. Improved RAM-D hardware is necessary in order to increase the Mean-Time-Between-Depot for all causes (MTBDA) for the T55-L-11D engine to over 1000 hrs. Emergency power hardware is necessary in order to provide reduced aircraft vulnerability in the event of an engine being disabled. A T55-L-11D engine with RAM-D and emergency power hardware installed will be reidentified as the T55-L-712 engine.</p> <p><u>DEVELOPMENT STATUS:</u> Program initiated 1 Mar 76. Four (4) test engines have been converted to the T55-L-712 configuration and testing has begun to determine low-cycle fatigue, extended service life and performance. This testing is being accomplished under the Component Improvement Program.</p> <p><u>MILESTONES:</u></p> <table border="1"> <thead> <tr> <th></th> <th>FY 76</th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> <th>FY 84</th> </tr> <tr> <th></th> <th>ACT DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> <th>EST DATE</th> </tr> </thead> <tbody> <tr> <td>Contract Award for:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tooling</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Long Lead Time Castings</td> <td></td> <td></td> <td></td> <td>Aug 79</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Engine Production Kits</td> <td></td> <td></td> <td></td> <td>1Q 80</td> <td>2Q 80</td> <td>2Q 81</td> <td>2Q 82</td> <td>\$Q 83</td> <td>2Q 84</td> </tr> <tr> <td>Lead Time - 21 Months</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate - Monthly</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1, 2, 4, 5 thereafter</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8 per Month</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng Kit Delivery Starts</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng Kit Installation Starts</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Eng Kit Installation Complete</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Airframe Kits</td> <td></td> <td></td> <td></td> <td>4Q 79</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Lead Time 10 Months</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate - 25 per Month</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A/F Kit Delivery Starts</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2Q 87</td> </tr> </tbody> </table>					FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84		ACT DATE	EST DATE	EST DATE	EST DATE	EST DATE	EST DATE	EST DATE	EST DATE	EST DATE	Contract Award for:										Tooling										Long Lead Time Castings				Aug 79						Engine Production Kits				1Q 80	2Q 80	2Q 81	2Q 82	\$Q 83	2Q 84	Lead Time - 21 Months										Production Rate - Monthly										1, 2, 4, 5 thereafter										8 per Month										Eng Kit Delivery Starts										Eng Kit Installation Starts										Eng Kit Installation Complete										Contract Award for Airframe Kits				4Q 79						Lead Time 10 Months										Production Rate - 25 per Month										A/F Kit Delivery Starts									2Q 87
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DRSTS-C Form 1 Apr 78

2075

Edition of 1 May 76, may be used.

P-1 SHOPPLIST
ITEM NO.

1-92 - 1/21/80

CLASSIFICATION

17

EXHIBIT P. 3a

CH-47 Conversion of T55-L-11D to T55-L-712
PIP # 1-78-01-0700

FY 81 BUDGET ESTIMATE
Exhibit P-3a
Page 2 of 3

PIP # 1-78-01-0700

[illegible]

A/F Kit Delivery Starts
A/F Kit Installation Starts

2Q 80 1Q 81
1Q 81 2Q 82

PROJECT FINANCIAL PLAN:

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 76		FY 79		FY 80		FY 81		FY 82		FY 83		FY 84		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Kits Engine			44	7,000.0	41	8,000.0	56	12,038.0	65	14,887.0	56	13,617.0	37	9,612.0	299	65,154.0
Airframe			105	693.0	112	767.0									217	1,460.0
Nonrecur																
(tooling)	1,210.0				1,484.0											2,694.0
OMA																
Instl																
(OMA)									(217)	(483.1)					(217)	(483.1)

TOTAL	1,210.0	149	7,693.0	153	10,251.0	56	12,038.0	65	14,887.0	56	13,617.0	37	9,612.0	516	69,308.0
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METHOD OF IMPLEMENTATION: Implementation of Airframe Kits by contractor and depot. Engine conversion accomplished by depot during overhaul.

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	TOTAL
1	2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	
Engine Kit Delivery Schedule	7	21 24 24 24	24 24 24 24	24 24 24 24	24 24 24 24	24 24 24 24	12	496
Installation Schedule								
Induction/Completion	7	21 24 24	24 24 24 24	24 24 24 24	24 24 24 24	24 24 24 24	24 12	496

FY 81 BUDGET ESTIMATE
Exhibit P-3a
Page 3 of 3

1-94 - 1/21/80 BU 17

FY 81 BUDGET ESTIMATE

CLASSIFICATION

REPORTS CONTROL SYMBOL
DD-COMP (AR) 1092

AIRCRAFT MODIFICATION

DATE 3 Dec 79

APPROPRIATION/BUDGET ACTIVITY
APA/2 (SSN AA0250)

MODIFICATION TITLE AND NO.
CH-47D Modernization, PIP # 1-80-01-0815

AIRCRAFT AFFECTED: CH-47D

DESCRIPTION/JUSTIFICATION: Type of Improvement - Improved Operational Capability. Provides for incorporation of advances in design technology since introduction of CH-47s into Army inventory. Integration of these changes will result in improved reliability, maintainability and reduced vulnerability. Based upon the 20 year life expectancy of the CH-47D modernized aircraft, the year designator of each current serial number will be changed to year of acceptance. The CH-47 (Chinook) medium lift helicopter was developed in the late 50s with the first CH-47s being procured in 1962. The Chinook provided invaluable battlefield mobility in Vietnam for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. The Chinook will continue in service to meet the Army medium lift requirement during the 1980s. The CH-47A and B models fail to meet the Required Operational Capability (ROC) of 15,000 lb. payload for medium lift helicopters.

DEVELOPMENT STATUS: (RDTE Funded)

Modernization Development Contract
1st Flight Jun 76
Preliminary Airworthiness Evaluation (PAE) May 79
DT II/OT II Start 1Q FY 80
DT II/OT II Complete 1Q FY 80
ASARC III 3Q FY 80
DSARC III 4Q FY 80

MILESTONES:

Long Lead Time Items
Production Contract Award
Induction Starts
Delivery Complete

Long Lead Time Items
Production Contract Award

1-95 - 1/21/80

DRSAY-C Form 2075
1 May 76

P-3 SHOPP LIST
ITEM NO.

PAGE NO. 811 17

CLASSIFICATION

EXHIBIT P-3A

FY 81 BUDGET ESTIMATE

CH-47D MODERNIZATION
PIP # 1-80-01-0815

Exhibit P-3a
Page 2 of 4

MILESTONES (CONT'D):

	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>FY 91</u>	<u>FY 92</u>
Induction Starts	1Q FY 87	1Q FY 88	1Q FY 89	1Q FY 90	1Q FY 91	1Q FY 92
Delivery Complete	1Q FY 89	1Q FY 90	1Q FY 91	1Q FY 92	1Q FY 93	4Q FY 93

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>
	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>
	27,432.0	9 146,367.0	19 162,771.0	24 199,300.0	36 227,900.0	36 203,100.0
	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>	<u>FY 91</u>
	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>
	36 172,621.0	36 141,546.0	36 130,326.0	36 133,704.0	36 145,543.0	36 141,645.0

<u>FY 92</u>	<u>Total</u>
<u>Qty</u>	<u>Cost</u>
21 78,666.0	361 1,910,921.0

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>
	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>	<u>Cost</u>	<u>Qty</u>
Long Lead Time Items		27,432.0			
Recurring		19,550.0	26,624.0	48,313.0	45,561.0
GFM		63,217.0	108,843.0	124,416.0	163,329.0
Non-Recurring		2,760.0	6,174.0	8,262.0	13,045.0
OMA (Transportation)		60,840.0	21,130.0	18,309.0	5,965.0
TOTAL			(3.4)	(28.6)	(47.1)
	27,432.0	9 146,367.0	19 162,771.0	24 199,300.0	36 227,900.0
			1-96 - 1/21/80		

Exhibit P-3a
Page 3 of 4

BASIS FOR COST ESTIMATE (CONT'D): (Amounts in thousands of dollars)

	FY 85		FY 86		FY 87		FY 88		FY 89	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items		46,092.0		29,538.0		11,392.0		11,811.0		12,276.0
Recurring		143,261.0		128,642.0		113,890.0		100,274.0		102,182.0
GFM		13,747.0		14,441.0		16,264.0		18,241.0		19,246.0
Non-Recurring		(71.7)		(75.7)		(79.9)		(84.4)		(89.1)
OMA (Transportation)										
TOTAL	36	203,100.0	36	172,621.0	36	141,546.0	36	130,326.0	36	133,704.0

	FY 90		FY 91		FY 92		FY 93		Total	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Long Lead Time Items		12,781.0		7,811.0						299,181.0
Recurring		105,248.0		108,687.0		65,485.0				1,327,474.0
GFM		20,304.0		21,421.0		13,181.0				167,086.0
Non-Recurring		7,210.0		3,726.0						117,180.0
QMA (Transportation)		(94.1)		(99.4)		(104.9)		(92.3)		(870.6)
TOTAL	36	145,543.0	36	141,645.0	21	78,666.0			361	1,910,921.0

METHOD OF IMPLEMENTATION: CH-47A, B and C model aircraft will be inducted from the field to the Contractor's site for modernization.

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87
Inductions	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Deliveries	1 2 3 3	3 4 6 6	6 6 6 6	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9

1-97 - 1/21/80 BU 17

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 4 of 4

CH-47D MODERNIZATION
PIP # 1-80-01-0815

METHOD OF IMPLEMENTATION (CONT'D):

	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93	TOTAL
	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	<u>1 2 3 4</u>	
Inductions	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9		361
Deliveries	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 9	9 9 9 3	361

1-98 - 1/21/80 **BD** 17

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3		
Reports Control Symbol DD-COMP(AR) 1092				Date: 3 AUG 79		
APPROPRIATION: APA/2 (SSN AA0300)						
MODEL: CH-54 MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Improved Anti-Collision Lights	36	139.0	36	155.0		0
		139.0		155.0		0
TOTAL						
		1-99 -	1/21/80	BLJ	18	

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		AIRCRAFT MODIFICATION		DATE 3 AUG 79																																																		
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0300)				MODIFICATION TITLE AND NO. Anti-Collision Lights, PIP # 1-74-01-0203																																																				
AIRCRAFT AFFECTED: CH-54A/B																																																								
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Safety. The existing CH-54 rotating beacon will be replaced with a longer life and high visibility strobe light. The proposed improvement will consist of a high intensity white strobe light for daylight operations (safety) and a lower intensity red strobe light for night operations. The strobe light proposed has a higher Mean Time Between Failure (MTBF) than the present light.</p>																																																								
DEVELOPMENT STATUS:																																																								
Prototype Completion Date: Jan 79 Testing Completion Date: Jun 79																																																								
MILESTONES: <table border="0"> <tr> <td></td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> <td>FY 81</td> </tr> <tr> <td></td> <td><u>EST DATE</u></td> <td><u>EST DATE</u></td> <td><u>EST DATE</u></td> <td><u>EST DATE</u></td> </tr> <tr> <td></td> <td>Nov 78</td> <td>4Q 79</td> <td></td> <td></td> </tr> <tr> <td>Contract Award for ECP</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ECP Approval</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contract Award for Kits GSE/SSE, Training Aids/Devices, etc.</td> <td></td> <td></td> <td>1Q 80</td> <td>1Q 81</td> </tr> <tr> <td>Leadtime of Kits - 4 Mos</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate of Kits - 12/Mo</td> <td></td> <td></td> <td>3Q 80</td> <td>2Q 81</td> </tr> <tr> <td>Kit Delivery Starts</td> <td></td> <td></td> <td></td> <td>1Q 82</td> </tr> <tr> <td>Kit Installation Completed</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								FY 78	FY 79	FY 80	FY 81		<u>EST DATE</u>	<u>EST DATE</u>	<u>EST DATE</u>	<u>EST DATE</u>		Nov 78	4Q 79			Contract Award for ECP					ECP Approval					Contract Award for Kits GSE/SSE, Training Aids/Devices, etc.			1Q 80	1Q 81	Leadtime of Kits - 4 Mos					Production Rate of Kits - 12/Mo			3Q 80	2Q 81	Kit Delivery Starts				1Q 82	Kit Installation Completed				
	FY 78	FY 79	FY 80	FY 81																																																				
	<u>EST DATE</u>	<u>EST DATE</u>	<u>EST DATE</u>	<u>EST DATE</u>																																																				
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Leadtime of Kits - 4 Mos																																																								
Production Rate of Kits - 12/Mo			3Q 80	2Q 81																																																				
Kit Delivery Starts				1Q 82																																																				
Kit Installation Completed																																																								

1-100 - 1/21/80 BU 18

FY 81 BUDGET ESTIMATE

CH-54 IMPROVED ANTI-COLLISION LIGHTS
PIP # 1-74-01-0203

Exhibit P-3a
Page 2 of 2

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 80	FY 81	TOTAL
QTY COST	QTY COST	QTY COST
36 139.0	36 155.0	72 294.0

BASIS FOR COST ESTIMATES: (Amounts in thousands of dollars)

	FY 79	FY 80	FY 81	FY 82	TOTAL
	QTY COST	QTY COST	QTY COST	QTY COST	QTY COST
Kits		36 139.0	36 155.0		72 294.0
GFE					
Non-Recur					
(OMA)	(151.0)	(11.0)			(162.0)
Instl					
(OMA)		(12) (10.0)	(48) (43.0)	(12) (12.0)	(72) (63.0)
TOTAL		36 139.0	36 155.0		72 294.0

METHOD OF IMPLEMENTATION: Depot Teams will install field level by MWO

KIT DELIVERY SCHEDULE:

FY 80	FY 81
QTY	QTY
1 2 3 4	1 2 3 4
18 18	18 18

INSTALLATION SCHEDULE:

FY 80	FY 81	FY 82
QTY	QTY	QTY
1 2 3 4	1 2 3 4	1 2 3 4
12 12 12 12	12 12 12 12	12 12 12 12

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS				EXHIBIT P-3	
Reports Control Symbol DD-CORP(AR) 1092				Date: 21 Aug 79	
APPROPRIATION: APA/2 (SSN AAO270)					
MODEL: C-12 MODIFICATION (1)	FY 1980		FY 1981		FY 1982
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6) Amount (Thousands) (7)
PT 6A-38 TO -41 Engine Conversion Auto Feather/Auto Synchronization Recognition Light and Electrical System TOTAL C-12			30	617.0	18 391.0
			30	331.0	18 210.0
					66 116.0
				948.0	717.0
	1-102	1/21/80	19		

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE																																																																																																																
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092				21 Aug 79																																																																																																																
APPROPRIATION/BUDGET ACTIVITY		MODIFICATION TITLE AND NO.																																																																																																																		
APA/2 (SSN AA0270)		PT 6A-38 to -41 Engine Conversion PIP #1-79-01-0602																																																																																																																		
AIRCRAFT AFFECTED: C-12A																																																																																																																				
<p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Reduced cost of operation. The PT6A-38 engines will be converted to the PT6A-41 configuration at the time of overhaul to take advantage of the increased TBO (time between overhaul) and hot-end inspection intervals of the PT6A-41 engine.</p> <p><u>DEVELOPMENTAL STATUS:</u> The PT6A-41 engine has already been fully developed and is being installed in the FY 78 production aircraft as well as all commercial Beech A-200 aircraft. The ECP which will provide specific details and plans for engine conversion at the time of overhaul is being prepared.</p>																																																																																																																				
<p><u>MILESTONES:</u></p> <table border="0"> <tr> <td></td> <td>FY 79</td> <td>FY 81</td> </tr> <tr> <td>Contract Award for ECP</td> <td>1Q80</td> <td></td> </tr> <tr> <td>ECP Approval</td> <td>3Q80</td> <td></td> </tr> <tr> <td>Contract Award</td> <td></td> <td>2Q81</td> </tr> <tr> <td>Leadtime</td> <td>12 Months</td> <td></td> </tr> <tr> <td>Production Rate</td> <td>Unknown</td> <td></td> </tr> <tr> <td>Installation Starts</td> <td></td> <td>1Q83</td> </tr> <tr> <td>Installation Completed</td> <td></td> <td>3Q85</td> </tr> </table>						FY 79	FY 81	Contract Award for ECP	1Q80		ECP Approval	3Q80		Contract Award		2Q81	Leadtime	12 Months		Production Rate	Unknown		Installation Starts		1Q83	Installation Completed		3Q85																																																																																								
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	FY 79	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL PROGRAM																																																																																																													
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KIT DELIVERY SCHEDULE:

FY	82	FY	83	FY	84
1	2	1	2	1	2
2	3	2	3	2	3
3	4	3	4	3	4
4	5	4	5	4	5
5	10	5	5	5	5
10	10				

INSTALLATION SCHEDULE:

FY	83	FY	84	FY	85
1	2	1	2	1	2
2	3	2	3	2	3
3	4	3	4	3	4
4	5	4	5	4	5
5	10	5	5	5	5
10	10				

METHOD OF IMPLEMENTATION: Installation will be at the time of overhaul. Beech will make installation on the C-12A aircraft concurrent with the Automatic Feather/Automatic Synchronization Modification (PIP # 1-79-01-0603).

KIT DELIVERY SCHEDULE:

FY	82
1	2 3 4
10	10 10 10

FY	83
1	2 3 4
5	5 5 5

FY	84
1	2 3 4
10	5

INSTALLATION SCHEDULE:

FY	83
1	2 3 4
5	5 5 10

FY	84
1	2 3 4
5	5 5 5

FY	85
1	2 3 4
5	5 5 5

METHOD OF IMPLEMENTATION: Installation will be at time of overhaul. Beech will make installation of the C-12A aircraft concurrent with the PT6A-41 engine conversion (PIP # 1-79-01-0602).

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE 3 Aug 79
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0270)	MODIFICATION TITLE AND NO. Recognition Light and Electric System PIP # 1-79-01-0604	

AIRCRAFT AFFECTED: C-12A

DESCRIPTION/JUSTIFICATION: A small high-intensity forward-shining white light will be installed in each wing tip. The lights will be turned on to permit the aircraft to be seen during final approach. Landing lights are limited to use at or below 150 knots. Approach speeds at major airports are in excess of 150 knots. The electrical system will be modified to provide for cockpit switches and electrical system protection.

DEVELOPMENTAL STATUS: Off the shelf commercial option.

MILESTONES:

Contract Award for ECP	FY 79	FY 82
ECP Approval	3Q79	
Contract Award	3Q80	1Q82
Leadtime	6 months	
Production Rate Kits	Unknown	
Installation Starts		4Q82
Installation Completed		4Q83

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 79	FY 82	FY 83	TOTAL PROGRAM
	QTY	QTY	QTY	QTY
	COST	COST	COST	COST
Hardware		66		66
Publications (OMA)	(13.0)			(13.0)
Application (OMA)		(22)	(44)	(66)
TOTAL		66	(44)	66
		(11.0)	(24.0)	(35.0)
		116.0		116.0

KIT DELIVERY SCHEDULE:

FY	82	FY	83
1	2	1	2
3	4	3	4
10	16	16	16
	10		8

INSTALLATION SCHEDULE:

FY	82	FY	83
1	2	1	2
3	4	3	4
10	16	10	16
	15		15

PAGE 2 of 2
Recognition Light

PIP # 1-79-01-0604

METHOD OF IMPLEMENTATION: This change will be incorporated in the last fourteen (14) FY 78 aircraft during production. The change will be accomplished using a contractor supplied kit. The kits will be installed by Beech Maintenance technicians at the individual aircraft locations.

1-108 - 1/21/80 BU 19

FY 81 BUDGET ESTIMATE

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN: AZ1200)					Date: 3 Dec 79	
MODEL: EH-1 Quick Fix MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
Quick Fix *AN/ALQ-144 OMNI Directional IR Jammer *XM-130 General Purpose Dispenser Hot Metal & Plume Suppressor *AN/ALQ-156() Missile Detector System	5	14,374.0		4,213.0		0
	33	2,798.0		0		0
	33	1,142.0	19	86.0		0
			30	754.0	30	2,329.0
TOTAL		18,314.0		5,053.0		2,329.0
*Consolidated P-3a						
**P3a not included. No FY 81/82 programs						
		1-109	1/21/80	BU	20	

CLASSIFICATION		FY 81 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 3 Dec 79

APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN: AZ1200)	MODIFICATION TITLE AND NO. Quick Fix PIP # 1-75-01-0835
--	--

AIRCRAFT AFFECTED: UH-1H Converted to EH-1

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. This is a conversion program which will proceed in two phases. Phase I will field aircraft with HF/VHF intercept and VHF jamming. Phase II will involve low rate production of new aircraft with Phase I characteristics plus a new VHF transmitter locating system. Phase I is designed to provide a tactical, realtime communications intercept and jamming capability for early deployment at Division and Brigade level. Phase II adds later the additional capability of enemy transmitter locating which is designed for one or more aircraft to work on yielding transmitter locations per a realtime basis. Justification is contained in the "Quick Fix" ROC.

DEVELOPMENT STATUS: Phase I completed DT/OT II in Nov 73 with EH-1H (LP-U) type classification in May 74. DT/OT III and aircraft delivery was completed in Jun 78. Phase II completed DT/OT II in Apr 77. Contract award is anticipated during the 4th Qtr FY 79 with aircraft delivery commencing 1st Qtr FY 82.

MILESTONES:

	FY 75 & PRIOR	FY 76	FY 77	FY 78	FY 79	FY 80
<u>Phase IA & IB</u>						
GFE Awards	May 75 (IA)	Mar 76 (IB)	Jul 76 (IB)	Nov 76 (IB)		
Test Equip Awards	May 75 (IA)	Aug 75 (IA)		Nov 76 (IB)		
EH-1H Production Award		Aug 75 (IA)		Jan 77 (IB)		
<u>Phase II</u>						
GFE Awards				Oct 76	May 78	1Q 80
Test Equip Awards				May 78	May 78	1Q 80
EH-1 Award				4Q 79	4Q 79	1Q 80

1-110 - 1/21/80

DRS/V-C Form 1 Nov 76	2075	P-1 SHOPP LIST ITEM NO.	PAGE NO.	CLASSIFICATION	EXHIBIT P-3a
				20	

SYSTEM: EH-1

PIP NO: 1-75-01-0835H

PIP DESCRIPTION: QUICK FIX

FY 81 BUDGET ESTIMATE

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

	FY 75		FY 76		FY 77		FY 77	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
PHASE I	4	3,588.3	-	3,206.1	-	16.6	14	9,971.6
PHASE II	-	-	-	152.0	-	-	-	7,115.0
PROGRAM TOTAL	4	3,588.3	-	3,358.1	-	16.6	14	17,086.6

	FY 78		FY 79		FY 80		FY 81		TOTAL	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
PHASE I	-	-	-	-	-	-	-	-	-	-
PHASE II	5	10,800.0	-	2,005.0	-	-	-	-	-	-
	5	10,800.0	-	2,005.0	-	-	-	-	-	-

* The aircraft represents conversion of Phase IA aircraft to Phase IB and the aircraft are JUH-1H. aircraft to be replaced by EH-1 Phase IB aircraft.

8U 20

1-111 - 1/21/80

SYSTEM: EH-1

PIP NO: 1-75-01-0835

PIP DESCRIPTION: QUICK FIX Pg. 3 of 4

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars) (CONTINUED)
PHASE I

PHASE IA & IB	FY 75	FY 76	FY 7T	FY 77
EH-1 Conversion	1,100.0	1,410.0	-	2,928.0
AN/ARM-164	250.2	323.1	-	1,388.9
GFE	1,990.1	1,241.0	16.6	4,227.8
Test Equipment	46.0	24.0	-	8.0
In-House Support	202.0	208.0	-	1,418.9
PHASE I Subtotal	3,588.3	3,206.1	16.6	9,971.6

PHASE II

PHASE II	FY 76	FY 77	FY 78	FY 79
Engineering	130.0	503.0	2,299.0	-
Data	-	350.0	2,815.0	-
Tests (10 a/c, 2 training, IDF)	-	329.0	(7) 1,478.0	-
Install. (10 a/c, 1 trainer)	-	-	(6) 705.0	-
GFE ¹ / ₂ (10 a/c, 2 trainers)	17.0	(3) 1,806.0	52.0	(4) 2,005.0
Floats ¹ / ₂	5.0	(1) 2,013.0	174.0	-
Test Equipment ¹ / ₂ ² / ₃	-	(6) 737.0	-	-
Aux Power Unit (3)	-	(2) 70.0	(1) 60.0	-
CFE (10 a/c, 2 trainers) ¹ / ₂	-	(3) 1,307.0	(4) 3,217.0	-
PHASE II Subtotal	152.0	7,115.0	10,800.0	2,005.0

¹ Quantities indicate DF sets and not all GFE procurement.² APR-39(V)1 and associated test equipment will be updated to APR-39(V)2 configuration.³ (4) TLQ-17A, (3) ALQ-151, (2) APR-39(V)

SYSTEM: EH-1

PIP NO: 1-75-01-0835H

PIP DESCRIPTION: QUICK FIX Pg. 4 of 4

METHOD OF IMPLEMENTATION: Phase IA by Navy, Phase IB will be Army Depots. Phase II planned to be sole source contract.

AIRCRAFT GFE DELIVERY AND INSTALLATION SCHEDULE FOR CONVERSION PROGRAM:

	FY 76 QTRS				FY7T	FY 77 QTRS				FY 78 QTRS				FY 79 QTRS			
	1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4
GFE DEL	-	-	-	-	1	-	-	3	-	-	4	4	4	2	-	-	3*
IND	-	-	-	-	1	-	-	-	3	-	2	-	-	2	1	-	-
COMP	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	-	4

*Initiation of Phase II.

**Upon completion there will be Phase I aircraft and Phase II aircraft.

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082	AIRCRAFT MODIFICATION	DATE 3 AUG 79
MODIFICATION TITLE AND NO. Hot Metal & Plume Suppressor, PIP # 1-78-01-1380		

APPROPRIATION/BUDGET ACTIVITY
APA/2 (SSN: AZ1200)

AIRCRAFT AFFECTED: EH-LH/X

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The Hot Metal and Plume Suppressor is an engine nacelle/exhaust modification which reduces the infrared (IR) signature and thereby decreases the aircraft vulnerability to IR seeking air defense missiles.

DEVELOPMENT STATUS:

First Phase Engineering Started	Nov 78
Prototype Delivered	1Q 80
Govt Test Completed	3Q 80
ECP Approval	1Q 81

MILESTONES:

Production Contr Award	2Q 81
Delivery Starts	2Q 82
Installation Starts	3Q 82

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 81		TOTAL PROGRAM	
Qty	Cost	Qty	Cost
30	754.0	30	754.0

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

FY 81		FY 82		TOTAL PROGRAM	
Qty	Cost	Qty	Cost	Qty	Cost
Contr Non-Recur	211.0				211.0
Suppressor Kits	30 543.0			30	543.0
Installation (OMA)		(30) (27.0)		(30)	(27.0)
TOTAL	754.0				754.0

1-114 - 1/21/80 811 20

FY 81 BUDGET ESTIMATE

HOT METAL & PLUME SUPPRESSOR
PIP # 1-78-01-1380

Exhibit P-3a
Page 2 of 2

METHOD OF IMPLEMENTATION: Airframe Modification Kits will be applied in the field by contract and/or depot contact teams. Kit installation time is estimated at 30 manhours.

KIT DELIVERY SCHEDULE:

FY 82
1 2 3 4
<u>10 20</u>

INSTALLATION SCHEDULE:

FY 82
1 2 3 4
<u>10 20</u>

1-115 - 1/21/80 817 20

FY 81 Budget Estimate

ACTIVITY 2 - AIRCRAFT MODIFICATIONS			EXHIBIT P-3			
Reports Control Symbol DD-COMP(AR) 1092						
APPROPRIATION: APA/2 (SSN AA0400)			Date: 3 Dec 79			
MODEL: OH-58 A & C MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
**Airframe Defrost System Kits		1,700.0				
**HF NOE Communication System	60	3,234.0				
*Improved VHF-FM - NOE Communications		1,266.0	262	3,126.0	155	1,669.0
Improved Tail Rotor System			125	1,274.0	327	3,331.0
TOTAL		6,200.0		4,400.0		5,000.0
*Consolidated P-3A **P3a not included. No FY 81/82 Programs	1-116	1/21/80	RT 22			

FY 81 Budget Estimate

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 (SSN AA0400)		MODIFICATION TITLE AND NO. Improved Tail Rotor System, 1-79-01-0215		

AIRCRAFT AFFECTED: OH-58C

DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability. The purpose of this modification is to provide improved tail rotor control. Tail rotor control problems associated with the OH-58A have been aggravated in the OH-58C with its increased horsepower, higher gross weight, and its use in scout missions.

DEVELOPMENT STATUS:

Performance Specification completion date: 1Q 80

Milestones:

FY 83

FY 82

FY 81

FY 79

Engineering Contract Award 2Q FY 80

Contract Award Kits	2Q FY 81	2Q FY 82	2Q FY 83
Leadtime for Kits	12 Month	12 Month	12 Month
Prod Rate for Kits	27 Month	20 Month	11 Month
Kit Delivery Starts	2Q FY 82	2Q FY 83	2Q FY 84
Kit Installation Completed	1Q FY 83	1Q FY 84	2Q FY 84

PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)

FY 79	QTY	AMT	FY 81	QTY	AMT	FY 82	QTY	AMT	FY 83	QTY	AMT	TOTAL PROGRAM	QTY	AMT
2,827.0			125		1,274.0	327		3,331.0	11		100.0	463		7,532.0

1-117 1/21/80 BU 22

DRST-C Form 1 Apr 78	2075	Edition of 1 May 76, may be used.	P-1 SHOPPLIST ITEM NO.	PAGE NO.	CLASSIFICATION
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FY 81 Budget Estimate

OH-58 IMPROVED TAIL ROTOR SYSTEM
PIP # 1-79-01-0215

Exhibit P3A

Page 2 of 2

BASIS FOR COST ESTIMATES (Amounts in thousands of dollars)

	FY 79		FY 81		FY 82		FY 83		TOTAL PROGRAM	
	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
Kits	0	0	125	1,274.0	327	3,331.0	11	100.0	463	4,705.0
Non-Recurring		2,827								2,827.0
TOTAL			125	1,274.0	327	3,331.0	11	100.0	463	7,532.0

METHOD OF IMPLEMENTATION: By contract incorporation/field incorporation.

KIT DELIVERY SCHEDULE:

	FY 82		FY 83		FY 84	
	1	2	1	2	1	2
	81	81	81	60	70	11
	4	4	4	60	4	4

INSTALLATION SCHEDULE:

	FY 82		FY 83		FY 84	
	1	2	1	2	1	2
Inductions	81	81	81	60	70	11
	81	81	81	60	70	11
	4	4	4	60	4	4

1-118 - 1/21/80 311 22

ACTIVITY 2 - AIRCRAFT MODIFICATIONS					EXHIBIT P-3	
Reports Control Symbol DD-COMPT(AR) 1092						
APPROPRIATION: APA/2 FY 81 OSD Budget					Date: 14 Dec 1979	
MODEL: Airborne Avionics SSN AA0700 MODIFICATION (1)	FY 1980		FY 1981		FY 1982	
	Quantity (2)	Amount (Thousands) (3)	Quantity (4)	Amount (Thousands) (5)	Quantity (6)	Amount (Thousands) (7)
AN/APN-209(V) Radar Altimeter				1,933.0		
Improved MK-1564()/AR Head Set						365.0
AN/ARC-114 Homing (PIP 0034) Radio Set				600.0		
AN/ARC-114 (PIP 0100) Radio Set				265.0		
AN/ARC-114 (PIP 0106) Radio Set				405.0		
AN/ARN-89 Direction Finder Set				950.0		715.0
RT-1167/ARC-164(V) Radio Set				879.0		824.0
Improved Reliability of LDNS AN/ASN-128				768.0		496.0
TOTAL				5,800.0		2,400.0
1-119 - 1/21/80			8LJ 24			

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 31 July 79												
APPROPRIATION/BUDGET ACTIVITY APA/2 FY 81/82	(SSN AA0700)	MODIFICATION TITLE AND NO AN/APN-209(V) Radar Altimeter	1-80-07-0701												
<p><u>Models of Aircraft Affected:</u> NA</p> <p><u>Description/Justification:</u> A solid state (S/S) transmitter with automatic power management circuits (PMC) will be incorporated into the AN/APN-209 to eliminate interference on the AN/APR-39 Radar Warning Receiver. The S/S transmitter will be incorporated into the present AN/APN-209 package so no aircraft modifications or wiring changes will be required to install the S/S system. Side Benefits include reduced detectability of the radar altimeter in an electronic warfare environment and also the increased reliability inherent in S/S devices as opposed to tubes.</p> <p><u>Development Status:</u> Program to start in FY 81.</p> <p><u>Milestones:</u></p> <table border="0"> <tr> <td>Initiate Engineering</td> <td>1Q81</td> </tr> <tr> <td>IPR/PROD Decision</td> <td>1Q81</td> </tr> <tr> <td>First Prod Hdw Del</td> <td>1Q82</td> </tr> <tr> <td>First Kit Applied</td> <td>1Q82</td> </tr> <tr> <td>Last Prod Hdw Del</td> <td>3Q83</td> </tr> <tr> <td>Last Kit Applied</td> <td>3Q83</td> </tr> </table>				Initiate Engineering	1Q81	IPR/PROD Decision	1Q81	First Prod Hdw Del	1Q82	First Kit Applied	1Q82	Last Prod Hdw Del	3Q83	Last Kit Applied	3Q83
Initiate Engineering	1Q81														
IPR/PROD Decision	1Q81														
First Prod Hdw Del	1Q82														
First Kit Applied	1Q82														
Last Prod Hdw Del	3Q83														
Last Kit Applied	3Q83														
1-120 - 1/21/80		BU 24													

P-1 SHOP LIST ITEM NO.	PAGE NO.
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CLASSIFICATION

EXHIBIT P3a

MODIFICATION TITLE AND NO:

PROJECT FINANCIAL PLAN:			
FY-78		FY-79	
E Prior		Current	
Qty	Amt	Qty	Amt

PROJECT FINANCIAL PLAN:

FY-80	FY-81
Budget	Budget + 1
Qty Amt	Qty Amt

	<u>Qty</u>	<u>FY-82</u>	<u>Amt</u>
1000	1000	1000	1000
2000	2000	2000	2000
3000	3000	3000	3000
4000	4000	4000	4000
5000	5000	5000	5000
6000	6000	6000	6000
7000	7000	7000	7000
8000	8000	8000	8000
9000	9000	9000	9000
10000	10000	10000	10000
11000	11000	11000	11000
12000	12000	12000	12000
13000	13000	13000	13000
14000	14000	14000	14000
15000	15000	15000	15000
16000	16000	16000	16000
17000	17000	17000	17000
18000	18000	18000	18000
19000	19000	19000	19000
20000	20000	20000	20000
21000	21000	21000	21000
22000	22000	22000	22000
23000	23000	23000	23000
24000	24000	24000	24000
25000	25000	25000	25000
26000	26000	26000	26000
27000	27000	27000	27000
28000	28000	28000	28000
29000	29000	29000	29000
30000	30000	30000	30000
31000	31000	31000	31000
32000	32000	32000	32000
33000	33000	33000	33000
34000	34000	34000	34000
35000	35000	35000	35000
36000	36000	36000	36000
37000	37000	37000	37000
38000	38000	38000	38000
39000	39000	39000	39000
40000	40000	40000	40000
41000	41000	41000	41000
42000	42000	42000	42000
43000	43000	43000	43000
44000	44000	44000	44000
45000	45000	45000	45000
46000	46000	46000	46000
47000	47000	47000	47000
48000	48000	48000	48000
49000	49000	49000	49000
50000	50000	50000	50000
51000	51000	51000	51000
52000	52000	52000	52000
53000	53000	53000	53000
54000	54000	54000	54000
55000	55000	55000	55000
56000	56000	56000	56000
57000	57000	57000	57000
58000	58000	58000	58000
59000	59000	59000	59000
60000	60000	60000	60000
61000	61000	61000	61000
62000	62000	62000	62000
63000	63000	63000	63000
64000	64000	64000	64000
65000	65000	65000	65000
66000	66000	66000	66000
67000	67000	67000	67000
68000	68000	68000	68000
69000	69000	69000	69000
70000	70000	70000	70000
71000	71000	71000	71000
72000	72000	72000	72000
73000	73000	73000	73000
74000	74000	74000	74000
75000	75000	75000	75000
76000	76000	76000	76000
77000	77000	77000	77000
78000	78000	78000	78000
79000	79000	79000	79000
80000	80000	80000	8

Total Program	Qty	Amt
------------------	-----	-----

627 1.933

627 1.933

BASIS FOR COST ESTIMATES:

FY-79		FY-80	
Current	Budget	Current	Budget
Qty	Amt	Qty	Amt

FY-81	Budget +1	FY-82
Qty	Amt	Qty Amt

Total	Program	Qty	Amt
-------	---------	-----	-----

SPARES
NON RECUR

KITS

833

1.833

621 1.833 100

OMA

TOTALS

1.9333

621 1,933

METHOD OF IMPLEMENTATION: Under this effort the manufacturer will retrofit 2323 units which have been produced on contract. A pool of modified units will be held by the manufacturer to be used in a one for one replacement with the fielded units during the retrofit process.

KIT DELIVERY SCHEDULE:

$$\begin{array}{r} 1 \ 2 \ 3 \ 4 \\ \hline \text{FY- 82} \end{array}$$

1	2	3	4
<hr/>			
381	381	381	381
FY- 83			

INSTALLATION SCHEDULE:

$$\begin{array}{r} 1 \text{ } 2 \text{ } 3 \text{ } 4 \\ \hline \text{FY-82} \end{array}$$

$$\begin{array}{r} 1 \\ \hline 2 \\ 3 \\ 4 \\ \hline \text{FY-83} \end{array}$$

387 387 387 1-121 - 1/21/80 80 24

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 31 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 FY 82	(SSN AA0700)	MODIFICATION TITLE AND NO. Improved MK-1564()/AR, PIP 1-81-07-0700	

Models of Aircraft Affected: NA

Description/Justification: The improved kit, MK-1564()/AR is an upgraded version of the current communications system package used on the SPH-4 Flyer's Protective Helmet, compatible with the improved communications system, C-10414()/ARC, to be used in Army aircraft systems. The kit consists of improved cables and connectors, a linear microphone M-162()/AIC; and an integrally separated earcup/transducer assembly. The kit provides improved TEMPEST performance through the use of physically separated twisted shielded pair wiring and increased microphone output. Speech intelligibility is enhanced by the improved frequency response and noise immunity of the microphone and earcup/transducer assembly. Aviator hearing loss is reduced by decreasing the combined communications system processed and penetrating ambient noise levels reaching the aviator's ears.

Development Status: Program to start in FY 82.

Milestones

Initiate Engineering	1Q82
Ind/Eval/Design Plan	2Q82
Ind Eval Report	1Q83
IPR/PROD Decision	2Q83

1-122 - 1/21/80 **BT** 24

CLASSIFICATION

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

EXHIBIT P3a

MODIFICATION TITLE AND NO: Improved NK-1564()/AR PIP 1-81-07-0700

PROJECT FINANCIAL PLAN:

[illegible]

BASIS FOR COST ESTIMATES:

	FY-78 & Prior	FY-79 Current	FY-80 Budget	FY-81 Budget +1	FY-82	Total Program
	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt
SPARES						
NON RECUR					.365	.365
KITS						
DMA						
TOTALS					.365	.365

**SPARES
NON RECUR
KITS
DMA**

TOTALS

METHOD OF IMPLEMENTATION: This effort is for engineering, prototype fabrication, test and software preparation only. The Improved MK-1564()/AR will be procured with procurement funds. Fielding procedures for MK-1564()/AR will be developed by TRADOC.

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-CO:P (AR) 1092	EQUIPMENT	MODIFICATION	DATE 31 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA 2	(SSN AA0700)	MODIFICATION TITLE AND NO. AN/ARC-114 Homing PIP 1-78-07-0034	

Models of Equipment Affected: AN/ARC-114A

Description/Justification: The purpose of this program is to redesign the homing card which will correct basic deficiencies in the performance and reliability of the AN/ARC-114A radio set. Engineering effort involves change from amplitude to phase comparison for improved system reliability and performance.

Development Status: Procurement data package is in final review stage.

Milestones:

Initiate Engineering	1Q78 Complete
First Production Hardware Delivery	4Q80
First Kit Applied	1Q81
Last Production Hardware Delivery	1Q82
Last Kit Applied	2Q82

1-124 - 1/21/80 217 25

CLASSIFICATION

P-1 SHOPP LIST ITEM NO.	PAGE NO.
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EXHIBIT P3a

PROJECT FINANCIAL PLAN:

FY-78		FY-79	FY-80	FY-81
& Prior		Current	Budget	Budget + J
<u>Qty</u>	<u>Amt</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>
			<u>Amt</u>	<u>Amt</u>
	.248	.322		2175 .600

BASIS FOR COST ESTIMATES:

	FY-78	FY-79	FY-80	FY-81	FY-82	Total
	ε Prior	Current	Budget	Budget +1		Program
	Qty	Qty	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt	Amt	Amt
SPARES						
NON RECUR	.248	.322				.570
KITS						.600
(ONA)						(.124)
TOTALS	.248	.322				2175
						(6000)
						2175
						1,170

Install kits at direct support level.

METHOD OF IMPLEMENTATION:

KIT DELIVERY SCHEDULE:

1	2	3	4	
FY-80				
1	2	3	4	
1150	1150	1150	1150	500
FY-81				
1	2	3	4	
900	2	3	4	
FY-82				

INSTALLATION SCHEDULE:

[illegible]

INDUCTIONS/COMPLETIONS	1150	1150	1150	1150	700	700
					1-125 - 1/21/80	BU 24

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 31 Dec 79								
APPROPRIATION/BUDGET ACTIVITY APA 2		(SSN AA0700)	MODIFICATION TITLE AND NO. AN/ARC-114 PIP 1-80-07-0100										
Models of Equipment Affected: N/A													
<p><u>Description/Justification:</u> The purpose of this program is to provide ECCM protection for the AN/ARC-114() Radio. Recent experience in the Middle East, as well as intelligence reports and vulnerability studies detail the susceptibility of Army Communications to enemy jamming. There is currently no protection available for the VHF/FM radio. An applique will be provided to attenuate jamming signals automatically.</p> <p><u>Development Status:</u> In-house work has been completed.</p> <p><u>Milestones:</u></p> <table border="0"> <tr> <td>Initiate Engineering</td> <td>1Q80</td> </tr> <tr> <td>Ind Eval/Design Plan</td> <td>3Q80</td> </tr> <tr> <td>Ind Eval Report</td> <td>3Q81</td> </tr> <tr> <td>Production Decision</td> <td>4Q81</td> </tr> </table>						Initiate Engineering	1Q80	Ind Eval/Design Plan	3Q80	Ind Eval Report	3Q81	Production Decision	4Q81
Initiate Engineering	1Q80												
Ind Eval/Design Plan	3Q80												
Ind Eval Report	3Q81												
Production Decision	4Q81												
<div style="text-align: right;">1-126 - 1/21/80 BU 24</div>													

FY-78		FY-79	
ε Prior	Amt	Current	Amt
Qty		Qty	

FY-78	FY-79	FY-80	FY-81
& Prior	Current	Budget	Budget + 1
<u>Qty</u>	<u>Qty</u>	<u>Qty</u>	<u>Qty</u>
<u>Amt</u>	<u>Amt</u>	<u>Amt</u>	<u>Amt</u>
			.265

FY-78	ε Prior	Qty	Amt
-------	---------	-----	-----

	FY-78		FY-79		FY-80		FY-81		FY-82		Total	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
SPARES												
NON RECUR								.265				.265
KITS												
OMA												
TOTALS								.265				.265

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		EQUIPMENT		MODIFICATION		DATE 31 Dec 79	
APPROPRIATION/BUDGET ACTIVITY APA 2		(SSN AA0700)		MODIFICATION TITLE AND NO. AN/ARC-114 PIP 1-80-07-0106					
Models of Equipment Affected: N/A									
Description/Justification: Replace the present aircraft VHF-FM antenna and coupler on current scout, attack, utility and cargo aircraft with a variable power output amplifier, an efficient antenna coupler, an improved (or new) aircraft antenna, and all associated interconnecting hardware. The purpose is to provide the Army with communications effectiveness at Nap of the Earth (NOE) altitudes down to and including ground level.									
Development Status: Initiated procurement action.									
Milestones:									
Initiate Engineering Production Decision				2079 Complete 1Q81					
1-128 - 1/21/80 BLJ 24									

EXHIBIT P3a

P-1 SHOP LIST ITEM NO.	PAGE NO.
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CLASSIFICATION

MODIFICATION TITLE AND NO: AN/ARC-114 PIP 1-80-07-0106

PROJECT FINANCIAL PLAN: (Dollars in Millions)

	FY-78 FY-79	FY-80	FY-81	Total
	Budget + 1	Budget	Budget + 1	Program
	Qty Amt	Qty Amt	Qty Amt	Qty Amt
	800		.405	1.205

BASIS FOR COST ESTIMATES:

	FY-78 FY-79	FY-80	FY-81	Total
	Current	Budget	Budget +1	Program
	Qty	Qty	Qty	Qty
	Amt	Amt	Amt	Amt
SPARES				
NON RECUR	.800		.405	1.205
KITS				
OMA				
TOTALS	.800		.405	1.205

METHOD OF IMPLEMENTATION:
Implementation by individual aircraft type PIP actions.

CLASSIFICATION		REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		EQUIPMENT		MODIFICATION		DATE 31 Dec 79											
APPROPRIATION/BUDGET ACTIVITY APA 2		(SSN AA0700)		MODIFICATION TITLE AND NO. AN/ARN-89 PIP 1-72-07-0210															
Models of Equipment Affected: N/A																			
<p>Description/Justification: Through FY 77 control head and mixer-IF module are being updated to incorporate coherent detection techniques and improved beacon identification. The design also provides remote control capability for operation in IACS configured aircraft system. FY 80-82 will provide production mod kits for retrofit. The baseline will be changed for future production. The AN/ARN-89 is most needed in the presence of electrical storms and man-made electrical interference.</p> <p>Development Status: Environmental/Bench tests have been performed satisfactorily.</p> <p>Milestones:</p> <table border="0"> <tr> <td>Initiate Engineering</td> <td>2Q76 Complete</td> </tr> <tr> <td>First Production Hardware Delivery</td> <td>1Q82</td> </tr> <tr> <td>First Kit Applied</td> <td>3Q82</td> </tr> <tr> <td>Last Production Hardware Delivery</td> <td>3Q84</td> </tr> <tr> <td>Last Kit Applied</td> <td>4Q84</td> </tr> </table>										Initiate Engineering	2Q76 Complete	First Production Hardware Delivery	1Q82	First Kit Applied	3Q82	Last Production Hardware Delivery	3Q84	Last Kit Applied	4Q84
Initiate Engineering	2Q76 Complete																		
First Production Hardware Delivery	1Q82																		
First Kit Applied	3Q82																		
Last Production Hardware Delivery	3Q84																		
Last Kit Applied	4Q84																		
1-130 - 1/21/80 BU 24																			

EXHIBIT P3a

P-1 SHOPP LIST
ITEM NO.

CLASSIFICATION

PAGE NO.

MODIFICATION TITLE AND NO: AN/ARN-89 PIP 1-72-07-0210

PROJECT FINANCIAL PLAN:

FY-78 & Prior	FY-79 Current	FY-80 Budget	FY-81 Budget + 1	FY-82	Future	Total Program
Qty	Amt	Qty	Amt	Qty	Amt	Qty
Amt						
.438				1759	.715	3559
				800	.950	2.841
					1000	
					.738	

BASIS FOR COST ESTIMATES:

[illegible]

SPARES

NOH RECUR

KITS

(OMA)

TOTALS

.438				800	.950	1759 (359)	.715 (.144)	1000 (3200)	.738 (1.354)	3559 (3559)	2.403 (1.498)	.438
				800	.950	1759	.715	1000	.738	3559	2.841	.438

METHOD OF IMPLEMENTATION: Mod kits will be supplied by contractor to depot. Kits may be installed at direct support level (AVIM).

KIT DELIVERY SCHEDULE:

	FY- 82				FY- 83				FY- 84			
	1	2	3	4	1	2	3	4	1	2	3	4
125	125	125	125	125	400	400	400	400	486	486	486	487

INSTALLATION SCHEDULE:

	FY-82	FY-83	FY-84
	1	2	1
	2	3	2
	3	4	3
	4		4

INDUCTIONS/COMPLETIONS

	350	350	350	450	450	450
	350	350	350	450	450	450

1-131 - 1/21/80 BU 24

CLASSIFICATION		DATE 31 Dec 79	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	
APPROPRIATION/BUDGET ACTIVITY APA 2	(SSN AA0700)	MODIFICATION TITLE AND NO RT-1167/ARC-164(V) PIP 1-80-07-0086	
Models of Equipment Affected: N/A			
Description/Justification: The purpose of this program is to develop interface serial/parallel radio modules, which comply with MIL-STD-1553B requirements, and be compatible with the integrated Avionics Control System (IACS). The program is for engineering and software development only.			
Development Status: In house work has been completed.			
Milestones:			
Initiate Engineering	1Q81		
Production Decision	3Q82		
CLASSIFICATION		1-132 - 1/21/80 811 24	
P-1 SHOPP LIST ITEM NO.		PAGE NO.	

EXHIBIT P3a

MODIFICATION TITLE AND NO: RT-1167/ARC-164(V) PIP 1-80-07-0086

PROJECT FINANCIAL PLAN:

[illegible]

BASIS FOR COST ESTIMATES:

Basis for Cost Estimates:	FY-78 & Prior	FY-79 Current	FY-80 Budget	FY-81 Budget +1	FY-82	Total Program
	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt	Qty Amt
SPARES				.879	.824	1.703
NON RECUR						
KITS						
OHA				.879	.824	1.703

**SPARES
NON RECUR
KITS
OMA**

TOTALS

BL 24

1-133 - 1/21/80

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	EQUIPMENT	MODIFICATION	DATE 12 Dec 79
APPROPRIATION/BUDGET ACTIVITY APA/2 FY81	(SSN AA0700)	MODIFICATION TITLE AND NO. PIP 1-80-07-00821 Improved Reliability of LDNS AN/ASN-128	

Models of Aircraft Affected: N/A

Description/Justification: To improve Lightweight Doppler Navigation System (LDNS) capability for critical attack/surveillance Mission and ease of interfacing with other avionics equipment. Modify Signal Data Converter (SDC) and Control Display Unit (CDU) for Digital Data Bus (MIL-STD-1553A) Compatibility, Projected Map Display (PDM) and Integrated Avionics Control System (IACS) interface compatibility. This PIP does not improve accuracy.

Development Status: The FY81 and FY82 dollars will fund the overall program for prototype design and assembly through testing and ending with a complete and revised data package for procurement.

Milestones:

	<u>FY-79</u> <u>Est. Dates</u>	<u>FY-80</u> <u>Est. Dates</u>	<u>FY-81</u> <u>Est. Dates</u>
Initial Engineering	4th Qtr		
Prototype Fabrication		4th Qtr	
Prototype Testing Complete			2nd Qtr.
Tech Documentation Avail.			4th Qtr.

1-134 1/21/80 **BLI 24**

CLASSIFICATION

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

MODIFICATION TITLE AND NO: PIP 1-80-07-00821 Improved Reliability of LDNS AN/ASN-128

Page 2 of 2

PROJECT FINANCIAL PLAN:

FY-78 & Prior	FY-79		FY-80		FY-81		FY-82		Total	
	Qty	Amt	Current	Qty	Amt	Budget + 1	Qty	Amt	Program	Amt
	6	.875		0	.768		0	.496	6	2.139

BASIS FOR COST ESTIMATES:

	FY-78 & Prior		FY-79		FY-80		FY-81		FY-82		Total	
	Qty	Amt	Current	Qty	Amt	Budget	Qty	Amt	Budget + 1	Qty	Amt	Program
SPARES												
NON RECUR	6	.875					0	.768	0	.496	6	2.139
KITS												
OMA												
TOTALS	6	.875					0	.768	0	.496	6	2.139

CONSOLIDATED P-3a's

XM-130 General Purpose Dispenser
NOE Communications
AN/ALQ-156 Missile Detector System
AN/ALQ-162(V)2 Continuous Wave Radar Jammer
AN/ARC-164 Radio

1-136 - 1/21/80

CLASSIFICATION		FY 81 BUDGET ESTIMATE																																																							
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION	DATE Jan 80																																																							
APPROPRIATION/BUDGET ACTIVITY	MODIFICATION TITLE AND NO. XM-130 General Purpose Dispenser																																																								
AIRCRAFT AFFECTED:	PIP #: 1-78-01-0860(CH-47), 1-78-01-0863(OH-58), 1-79-01-1379(UH-1), 1-77-01-0861(AH-1), 1-79-01-1279 (RU-21), 1-79-01-1079(OV-1), 1-79-01-0884(RV-1), 1-79-01-1779(EH-1)																																																								
CH-47C (SSN AA0250)																																																									
OH-58 (SSN AA0400)																																																									
UH-1 (SSN AA0600)																																																									
AH-1S (SSN AA0150)																																																									
RU-21 A/B/C/H (SSN AZ2900)																																																									
OV-1D (SSN AZ3530)																																																									
RV-1D (SSN AZ2100)																																																									
EH-1H/X (SSN AZ1200)																																																									
<p>DESCRIPTION/JUSTIFICATION: Type of Improvement - Operational Capability The XM-130 dispenser system provides effective countermeasures against radar, APA and infrared missile threats. The system incorporates the most cost appropriate design features of existing decoy dispensing systems in modularly constructed to achieve maximum commonality of components and provide dual mod operation (manual and automatic) with radar warning receivers, missile launch detectors and missile approach detectors.</p>																																																									
<p>DEVELOPMENT STATUS: DT/OT II Comp Aug FY 77 DEVA IPR - Aug FY 77 1st Prod Awd - Feb 78</p>																																																									
<p>MILESTONES:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> </tr> </thead> <tbody> <tr> <td>ECP/MWO Contr Awd</td> <td></td> <td>3Q 79</td> <td>1Q 80</td> <td>1Q 81</td> <td>1Q 82</td> </tr> <tr> <td>Mod Kit Contr - Awd</td> <td>1Q 80</td> <td>1Q 80</td> <td>1Q 80</td> <td>1Q 81</td> <td>1Q 82</td> </tr> <tr> <td>Production Lead Time</td> <td></td> <td></td> <td>6 mos.</td> <td>4 mos.</td> <td>4 mos.</td> </tr> <tr> <td>Mod Kit Del Start</td> <td></td> <td></td> <td>3Q 80</td> <td>2Q 81</td> <td>2Q 82</td> </tr> <tr> <td>Mod Kit Installation Start</td> <td></td> <td></td> <td>3Q 80</td> <td>2Q 81</td> <td>2Q 82</td> </tr> <tr> <td>XM-130 Sys Contr Awd</td> <td>Feb 79</td> <td>Feb 79</td> <td></td> <td>1Q 81</td> <td>1Q 82</td> </tr> <tr> <td>Pdn Lead Time</td> <td>6 mos.</td> <td>6 mos.</td> <td></td> <td>6 mos.</td> <td>6 mos.</td> </tr> <tr> <td>XM-130 Sys Del Start</td> <td>4Q 79</td> <td>4Q 79</td> <td></td> <td>3Q 81</td> <td>3Q 82</td> </tr> </tbody> </table>					FY 78	FY 79	FY 80	FY 81	FY 82	ECP/MWO Contr Awd		3Q 79	1Q 80	1Q 81	1Q 82	Mod Kit Contr - Awd	1Q 80	1Q 80	1Q 80	1Q 81	1Q 82	Production Lead Time			6 mos.	4 mos.	4 mos.	Mod Kit Del Start			3Q 80	2Q 81	2Q 82	Mod Kit Installation Start			3Q 80	2Q 81	2Q 82	XM-130 Sys Contr Awd	Feb 79	Feb 79		1Q 81	1Q 82	Pdn Lead Time	6 mos.	6 mos.		6 mos.	6 mos.	XM-130 Sys Del Start	4Q 79	4Q 79		3Q 81	3Q 82
	FY 78	FY 79	FY 80	FY 81	FY 82																																																				
ECP/MWO Contr Awd		3Q 79	1Q 80	1Q 81	1Q 82																																																				
Mod Kit Contr - Awd	1Q 80	1Q 80	1Q 80	1Q 81	1Q 82																																																				
Production Lead Time			6 mos.	4 mos.	4 mos.																																																				
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XM-130 Sys Del Start	4Q 79	4Q 79		3Q 81	3Q 82																																																				
<p>PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)</p> <table border="1"> <thead> <tr> <th>FY 76</th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>TOTAL PROGRAM</th> </tr> <tr> <th>COST</th> <th>COST</th> <th>COST</th> <th>COST</th> <th>COST</th> <th>COST</th> <th>COST</th> </tr> </thead> <tbody> <tr> <td>1,171.0</td> <td>87.0</td> <td>2,639.0</td> <td>3,007.0</td> <td>4,119.0</td> <td>3,991.0</td> <td>15,014.0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>1-137</td> <td>1-21/80</td> <td></td> </tr> </tbody> </table>				FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM	COST	COST	COST	COST	COST	COST	COST	1,171.0	87.0	2,639.0	3,007.0	4,119.0	3,991.0	15,014.0					1-137	1-21/80																											
FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM																																																			
COST	COST	COST	COST	COST	COST	COST																																																			
1,171.0	87.0	2,639.0	3,007.0	4,119.0	3,991.0	15,014.0																																																			
				1-137	1-21/80																																																				

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 6

XM-130 General Purpose Dispenser

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 77 & PRIOR		FY 80		FY 81		FY 82		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
CH-47C										
Mod Kits	80	470.0	110	1,998.0	100	2,065.0	210	4,063.0	210	4,063.0
XM-130 System					162	1,028.0	242	1,498.0		
STE						227.0		227.0		
ECP/RMO		496.0						496.0		
Non-Rec (CFE)		65.0						65.0		
ARRADCOM Spt		140.0						292.0		
Installations (OMA)					(80)	152.0	(130)	(426.0)	(210)	(674.0)
TOTAL		1,171.0		1,998.0		3,472.0				6,641.0
CH-58C										
Mod Kits	40	82.0	150	485.0					190	567.0
XM-130 Sys	120	609.0	80	225.0					200	834.0
STE		29.0		192.0						221.0
Non-Recurring		267.0		348.0						615.0
Installations (OMA)							(190)	(568.0)	(190)	(568.0)
TOTAL		987.0		1,250.0						2,237.0
UH-1										
Mod Kits										
XM-130 Sys										
STE										
Non-Recurring		48.0		146.0						48.0
ARRADCOM Spt										146.0
Installations (OMA)					(110)	(328.0)	(110)	(328.0)		
TOTAL		48.0		531.0						579.0

1-138 - 1/21/80

FY 81 BUDGET ESTIMATE

XM-130 General Purpose Dispenser

Exhibit P-3a
Page 3 of 6

	FY 77		FY 78		FY 79		FY 80		FY 81		FY 82		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
RU 16														
AH-1S														
Mod Kits														
ECP/MWO			477.0		172.0								89	649.0
XM-130 Sys			89	630.0										630.0
STE														
Non-Recurring														39.0
ARRADCOM Spt														
Training Devices														
TOTAL	39.0		1,107.0		172.0									1,318.0

	FY 78		FY 79		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST
RU-21A/B/C/H						
Mod Kits						
XM-130 Sys	31	262.0	10	45.0	41	307.0
STE		10.0				10.0
ECP/MWO						
Non-Recurring		273.0		7.0		280.0
ARRADCOM Spt				59.0		59.0
TOTAL		545.0		111.0		656.0

	FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
OV-1D										
Mod Kits										
XM-130 Sys	18	64.0	60	298.0	49	220.0	91	376.0		
STE		20.0		75.0	26	156.0	104	518.0		
ECP/MWO		342.0				42.0		137.0		
Non-Recurring								342.0		
ARRADCOM Spt		18.0		119.0		22.0		141.0		
TOTAL		444.0		771.0		82.0		223.0		
										1,737.0

XM-130 General Purpose Dispenser

Exhibit P-3a
Page 4 of 6

Item	FY 78	FY 79	FY 80	FY 81	TOTAL PROGRAM
	QTY	COST	QTY	COST	QTY
RV-1D					
Mod Kits					
XM-130 Sys	20	71.0	24	90.0	27
STE		20.0	11	55.0	31
ECP/MMO		280.0		31.0	
Non-Recurring					
ARRADCOM Spt		128.0		10.0	
Training Device					
TOTAL		499.0		23.0	730.0
EH-1H/X					
Mod Kits					
XM-130 Sys	9	24.0	19	56.0	28
STE	33	164.0			
ECP/MMO		35.0			
Non-Recurring		744.0			
ARRADCOM Spt				30.0	
TOTAL		175.0		86.0	175.0
INSTALLATIONS (OWA):					1,228.0
CH-47C					
OH-58					
UH-1					
AH-1					
RH-21					
OV-1D					
RV-1D					
EH-1H/X					
TOTAL					

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 5 of 6

XM-130 General Purpose Dispenser

BASIS FOR COST ESTIMATE: (RECAP OF ALL SYSTEMS)

	FY 77 & PRIOR		FY 78		FY 79		FY 80		FY 81		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Mod Kits			40	82.0	260	782.0	185	2,268.0	171	2,354.0	656	5,486.0
XM-130 Sys	80	470.0	240	1,501.0	163	493.0	104	517.0	188	1,072.0		4,053.0
STE				39.0		232.0		141.0		269.0	775	681.0
Non-Recurring		113.0		540.0		355.0		119.0		62.0		1,189.0
ARRADCOM Spt		179.0				351.0		330.0		234.0		1,094.0
Training Devices												
ECP/MWO		496.0		477.0		794.0		744.0		-		2,511.0
		1,258.0		2,639.0		3,007.0		4,119.0		3,991.0		15,014.0

METHOD OF IMPLEMENTATION: Depot/Contract teams will install mod kits as field applications on 89 AH-1S aircraft. Plans are to apply field mods on 2430 UH-1 aircraft. 84 OV-10s will require field mods with balance being modified during conversion line. 19 RV-10's will require field mods with balance being modified during conversion. One each RU-21 A/B/C aircraft will be equipped with mod kit during prototyping, balance of 6 aircraft will require field mods. RU-21H aircraft will not require A Kits. Provision are installed during Guardrail V Program. 28 EH-1H/X aircraft will be retrofitted by contract teams. CH-47 A Kits will be applied as field mods.

1-141 - 1/21/80

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 6 of 6

XM-130 General Purpose Dispenser

KIT DELIVERY SCHEDULE:

	FY 79	FY 80	FY 81	FY 82
CH-47C	1	2	3	4
OH-58	1	2	3	4
UH-1	1	2	3	4
AH-1	1	2	3	4
RU-21A/B/C	1	2	3	4
OV-1D	1	2	3	4
PV-1D	1	2	3	4
EH-1H/X	1	2	3	4

FY 83

CH-47C	1	2	3	4
OH-58	1	2	3	4
UH-1	1	2	3	4
AH-1	1	2	3	4
RU-21A/B/C	1	2	3	4
OV-1D	1	2	3	4
KV-1D	1	2	3	4
EH-1H/X	1	2	3	4

KIT INSTALLATION SCHEDULE:

	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL
CH-47	1	2	3	4	1	2	4
OH-58	1	2	3	4	1	2	4
UH-1	1	2	3	4	1	2	4
AH-1	1	2	3	4	1	2	4
RU-21	1	2	3	4	1	2	4
OV-1D	1	2	3	4	1	2	4
PV-1D	1	2	3	4	1	2	4
EH-1H/X	1	2	3	4	1	2	4

*No schedule shown for OH-58 and UH-1. Delivery & installation dependent of provision of funds for mod kit procurement:

CLASSIFICATION		AIRCRAFT MODIFICATION		DATE 3 Aug 79																																										
REPORTS CONTROL SYMBOL DD-COMP (AR) 1082																																														
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. NOE Communications																																												
<p>AIRCRAFT AFFECTED: AH-1S, OH-58A/C,</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> There is an urgent need for Army Aircraft to have reliable secured radio communications from 0 to 50 Km range while operating in the Map-of-the-Earth (NOE) altitudes down to and including ground level. In a hostile Electronic Warfare environment successful mission accomplishment and aircraft survivability are enhanced when Line-of-Sight, and Nor-Line-of-Sight Air-to-Air and Air-to-Ground communications are provided. To improve reliability, a combination of improved VHF-FM and HF-SSB Radio that will provide Nearly Vertical Incident Skywave (NVIS) radio coverage where terrain masking obstructs Line-of-Sight coverage was required. Requirements were established by SAG committee and further emphasized by DA and TRADOC.</p> <p><u>PROCUREMENT STATUS:</u> The NOE Program is in the final review phase for the draft Required Operational Capability (ROC). Upon completion of DA staffing, ROC scheduled for DA approval. Black Box IFM procurement contract is scheduled for award in 4th Qtr FY 80. HF contract award indeterminate at this time and will be scheduled when funds are approved in the budget.</p> <p>The following milestones for procurement of GFE are provided:</p> <table border="0"> <tr> <td></td> <td>FY 78</td> <td>FY 79</td> <td>FY 80</td> <td>FY 82</td> <td>FY 83</td> </tr> <tr> <td>DA approved ROC</td> <td></td> <td></td> <td>1Q</td> <td></td> <td></td> </tr> <tr> <td>Final Proc Data Package</td> <td></td> <td></td> <td>2Q</td> <td></td> <td></td> </tr> <tr> <td>Solicitation & Eval</td> <td></td> <td></td> <td>3Q</td> <td></td> <td></td> </tr> <tr> <td>Award Multi Cont - IFM</td> <td></td> <td></td> <td>4Q</td> <td></td> <td>1Q</td> </tr> <tr> <td>Production Delivery Start - IFM</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(Production Rate 100/Month)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div> PIP NO. 16 AH-1S 22 OH-58A/C </div> <div> IFM 1-80-01-0985-B-I 1-80-01-0285-A </div> <div> HF Not Rqd SSN AA0150 AA0400 </div> </div>						FY 78	FY 79	FY 80	FY 82	FY 83	DA approved ROC			1Q			Final Proc Data Package			2Q			Solicitation & Eval			3Q			Award Multi Cont - IFM			4Q		1Q	Production Delivery Start - IFM						(Production Rate 100/Month)					
	FY 78	FY 79	FY 80	FY 82	FY 83																																									
DA approved ROC			1Q																																											
Final Proc Data Package			2Q																																											
Solicitation & Eval			3Q																																											
Award Multi Cont - IFM			4Q		1Q																																									
Production Delivery Start - IFM																																														
(Production Rate 100/Month)																																														
CLASSIFICATION		P-1 SHOPP LIST ITEM NO.		PAGE NO.																																										

1-143 - 1/21/80

CLASSIFICATION

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT		MODIFICATION		DATE 3 Aug 79	
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. NOE Communications					
BASIS FOR COST ESTIMATES: (Amounts in thousands of dollars)							
IFM AIRFRAME PROTOTYPE							
NON RECUR (OMA)							
	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL
	AMT	AMT	AMT	AMT	AMT	AMT	AMT
AH-1S	(415.0)	(542.0)	(27.0)	(29.0)	(30.0)	(42.0)	(1,085.0)
OH-58A	(149.0)	(33.0)					(182.0)
OH-58C	(149.0)	(33.0)					(182.0)
TOTAL	(713.0)	(608.0)	(27.0)	(29.0)	(30.0)	(42.0)	(1,499.0)
IFM GFE APA							
NONRECUR							
AH-1S	296.0	365.0					661.0
OH-58A	393.0	246.0					639.0
OH-58C	394.0	250.0					644.0
TOTAL	1,083.0	861.0					1,944.0
GFE IFM APA							
AH-1H	61	555.0	195	1,871.0	452	4,568.0	53
OH-58A	14	106.0	87	752.0	24	234.0	9
OH-58C	43	326.0	161	1,391.0	126	1,224.0	10
TOTAL	57	432.0	309	2,698.0	345	3,329.0	471
						4,739.0	80
						823.0	
						1,262	
							12,021.0

1-145 - 1/21/80

1-145 - 1/21/80

CLASSIFICATION

P-1 SHOP LIST
ITEM NO.

PAGE NO.

EXHIBIT P-3a

CLASSIFICATION		REPORTS CONTROL SYMBOL. DD-COMP (AR) 1082				MODIFICATION				DATE	
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. NOE Communications								3 Aug 79	
		FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	TOTAL			
		QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT
STE IFM APA											
AH-1S		2	11.0	2	12.0			4	23.0		
OH-58A		7	38.0	2	12.0			9	50.0		
OH-58C		10	47.0	6	36.0	4	25.0	20	108.0		
TOTAL		10	47.0	15	85.0	8	49.0	33	181.0		
KITS APA											
AH-1S IFM		61	129.0	193	432.0	456	1,075.0	55	136.0	221	739.0
OH-58A IFM		106	106.0	26	30.0	15	16.0	16	18.0	163	170.0
OH-58C IFM		206	307.0	131	144.0	16	17.0	18	19.0	371	487.0
TOTAL		373	542.0	350	606.0	487	1,108.0	89	173.0	221	739.0
Install (OMA)											
AH-1S IFM		120	(200.0)	288	(506.0)	288	(534.0)	290	(569.0)	986	(1,809.0)
OH-58A IFM		114	(239.0)	27	(60.0)	22	(52.0)	163	(351.0)		
OH-58C IFM		215	(405.0)	85	(179.0)	71	(157.0)	371	(741.0)		
TOTAL		215	(405.0)	120	(200.0)	487	(924.0)	386	(751.0)	312	(621.0)
FUNDING BY											
ACFT SYSTEM											
AH-1S IFM	296	1,060		2,315	5,643	700	739	10,753			
OH-58 IFM	1,266	3,126		1,669	204	296		6,561			
TOTAL APA	1,562	4,186		3,984	5,847	996	739	17,314			

1-146 - 1/21/80

P-1 SHOPP LIST
ITEM NO.

PAGE NO.

CLASSIFICATION

EXHIBIT P-3a

CLASSIFICATION		FY 81 BUDGET ESTIMATE	
REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	MODIFICATION	DATE 3 Aug 79	
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. AN/ALQ-156() Missile Detector System		
PIP NO's: 1-80-01-1077(OV-1D), 1-8--01-1177(RV-1D), 1-77-01-0877(CII-47C), 1-80-01-1777(EH-1H/K)			
AIRCRAFT AFFECTED: OV-1D (SSN: AZ3530) RV-1D (SSN: AZ2100) CH-47C (SSN: AA0250) EH-1H/X (SSN: AZ1200)			
DEVELOPMENT STATUS: Initiate Airframe Integration Engineering, 3Q FY 80 ECP Approval 4Q FY 81			
MILESTONES:			
Airframe Mod Kit Cont Awd Prod Lead Time Airframe Mod Kit Deliveries Start Airframe Mod Kit Installation Starts AN/ALQ-156() Sys Cont Awd Prod Lead Time AN/ALQ-156() Sys Deliveries Start		FY 80 FY 81 FY 82	2Q FY 82 11 months 1Q FY 83 2Q FY 83 1Q FY 82 21 months 1Q FY 83 1Q 84
PROJECT FINANCIAL PLAN: (Amounts in thousands of dollars)			
FY 80 . 3,700.0		FY 81 9,467.0	FY 82 20,755.0
		TOTAL PROGRAM 33,922.0	

1-147 - 1/21/80

P-1 SHOP LIST
ITEM NO.

CLASSIFICATION

PAGE NO.

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 5

AN/ALQ-156 Missile Detector System

1-80-01-11077 (OV-1D)
1-80-01-1177 (RV-1D)
1-77-01-0877 (CH-47C)
1-77-01-1777 (EH-1H/X)

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 81		FY 82		FY 83		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
BU 12 OV-1D								
Non-Recurring								
Airframe Mod Kits	91		91	1,167.0			91	1,167.0
AN/ALQ-156 Systems	91		91	473.0			91	473.0
Spec Test Equip				5,080.0				5,080.0
ERADCOM Eng Spt				769.0				769.0
Installations (OMA)				331.0				331.0
TOTAL	(30)		(30)	(78.0)	(61)	(168.0)	(91)	(246.0)
				7,820.0				7,820.0
BU 14 RV-1D								
Non-Recurring								
Airframe Mod Kits	27		27	101.0			27	101.0
AN/ALQ-156 Systems	27		27	161.0			27	161.0
ERADCOM Eng Spt				1,811.0				1,811.0
Installations (OMA)				37.0				37.0
TOTAL	(18)		(18)	(48.0)	(9)	(25.0)	(27)	(73.0)
				2,110.0				2,110.0

1-148 - 1/21/80

AN/ALQ-156 Missile Detector System
 1-80-01-1077(OV-1D), 1 80-01-1177(RV-1D)
 1-77-01-0877(CH-47C), 1-77-01-1777(EH-1H/X)

FY 81 BUDGET ESTIMATE
 Exhibit P-3a
 Page 3 of 5

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 80		FY 81		FY 82		FY 83		TOTAL	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	QTY	COST
17 <u>CH-47C</u>										
Non-Recurring		3,700.0		658.0		542.0				4,900.0
Airframe Mod Kits				0.0	215	2,105.0			215	2,105.0
AN/ALQ-156 Systems			130	7,769.0	87	5,590.0			217	13,359.0
Spec Test Equip				800.0		-				800.0
ERADCOM Eng Spt				240.0		259.0				499.0
Installations (OMA)				-		-	(215)	(451.0)	(215)	(451.0)
TOTAL		<u>3,700.0</u>		<u>9,467.0</u>		<u>8,496.0</u>				<u>21,663.0</u>
20 <u>EH-1H/X</u>										
Non-Recurring						151.0				151.0
Airframe Mod Kits					30	159.0			30	159.0
AN/ALQ-156 Systems					30	1,801.0			30	1,801.0
Spec Test Equip						163.0				163.0
ERADCOM Eng Spt						55.0				55.0
Installation (OMA)					(30)	(67.0)			(30)	(67.0)
TOTAL		<u>0</u>		<u>0</u>		<u>2,329.0</u>				<u>2,329.0</u>

1-149 - 1/21/80

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 4 of 5

AN/ALQ-156 Missile Detector System
1-80-01-1077(OV-1D)
1-80-01-1177(RV-1D)
1-77-01-0877(CH-47C)
1-77-01-1777(EH-1H/X)

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

RECAP OF ALL SYSTEMS:

	FY 80		FY 81		FY 82		FY 83	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Non-Recurring		3,700.0		658.0		2,700.0		
Airframe Mod Kits				0.0	360	2,993.0		
AN/ALQ-156 Systems			130	7,769.0	212	13,763.0		
Spec Test Equip				800.0		1,040.0		
ERADCOM Eng Spt				240.0		259.0		
Installation (OMA)							(360)	(841.0)
TOTAL		3,700.0		9,467.0		20,755.0		

TOTAL PROGRAM

	QTY	COST
Non-Recurring		7,058.0
Airframe Mod Kits	360	2,993.0
AN/ALQ-156 Systems	342	21,532.0
Spec Test Equip		1,840.0
ERADCOM Eng Spt		499.0
Installations (OMA)	(360)	(841.0)
TOTAL		33,922.0

1-150 - 1/21/80

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 5 of 5

AN/ALQ-156 Missile Detector System

1-80-01-1077(OV-1D)

1-80-01-1177(OV-1D)

1-77-01-0877(CH-47C)

1-77-01-1777(EH-1H/X)

KIT DELIVERY SCHEDULE:

	FY 81	FY 82	FY 83	TOTAL PROGRAM
CH-47C	1	2	3	215
EH-1H/X	4	4	4	29
OV-1D			15	89
RV-1D			27	27
			90	360

KIT INSTALLATION SCHEDULE:

	FY 82	FY 83	TOTAL PROGRAM
CH-47C	1	2	215
EH-1H/X	3	3	29
OV-1D	4	92	89
RV-1D		15	27
		93	360

METHOD OF IMPLEMENTATION: Airframe mod kits will be applied in the field by contract or depot contact teams. Effort will be expended to identify the most economical method of implementation such as centralized application sites and the application of multiple modifications in the same time frame when practicable.

FY 81 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092	AIRCRAFT MODIFICATION		DATE 8 Aug 79																														
APPROPRIATION/BUDGET ACTIVITY APA/2	MODIFICATION TITLE AND NO. AN/ALQ-162(V)2, Continuous Wave Radar Jammer																																
PIP # 1-80-01-1078(OV-1D), 1-80-01-1178(RV-1D)																																	
<p><u>AIRCRAFT AFFECTED:</u> OV-1D (SSN AZ3530) RV-1D (SSN AZ2100)</p> <p><u>DESCRIPTION/JUSTIFICATION:</u> Type of Improvement - Operational Capability. The AN/ALQ-162(V)2 Continuous Wave (CW) Radar Jammer will provide protection against CW directed air defense weapons.</p> <p><u>DEVELOPMENT STATUS:</u> Initiate Airframe Integration Engineering - 3Q 81 ECP Approval - 2Q 82</p> <p><u>MILESTONES:</u></p> <table border="0"> <tr> <td>Airframe Mod Kit Contr Award</td> <td>FY 82</td> <td>FY 84</td> </tr> <tr> <td>Production Lead Time</td> <td>3Q FY 82</td> <td></td> </tr> <tr> <td>Airframe Mod Kit Deliveries</td> <td>9 months</td> <td></td> </tr> <tr> <td>AN/ALQ-162(V)2 Sys Contr Award</td> <td>2Q FY 83</td> <td></td> </tr> <tr> <td>Production Lead Time</td> <td>1Q FY 82</td> <td>2Q FY 84</td> </tr> <tr> <td>AN/ALQ-162(V)2 Sys Deliveries</td> <td>12 months</td> <td>12 months</td> </tr> <tr> <td></td> <td>2Q FY 83</td> <td>2Q FY 85</td> </tr> </table> <p><u>PROJECT FINANCIAL PLAN:</u> (Amounts in thousands of dollars)</p> <table border="0"> <tr> <td>FY 82</td> <td>FY 84</td> <td>TOTAL PROGRAM</td> </tr> <tr> <td><u>COST</u></td> <td><u>COST</u></td> <td><u>COST</u></td> </tr> <tr> <td>5717.0</td> <td>3,300.0</td> <td>9017.0</td> </tr> </table>				Airframe Mod Kit Contr Award	FY 82	FY 84	Production Lead Time	3Q FY 82		Airframe Mod Kit Deliveries	9 months		AN/ALQ-162(V)2 Sys Contr Award	2Q FY 83		Production Lead Time	1Q FY 82	2Q FY 84	AN/ALQ-162(V)2 Sys Deliveries	12 months	12 months		2Q FY 83	2Q FY 85	FY 82	FY 84	TOTAL PROGRAM	<u>COST</u>	<u>COST</u>	<u>COST</u>	5717.0	3,300.0	9017.0
Airframe Mod Kit Contr Award	FY 82	FY 84																															
Production Lead Time	3Q FY 82																																
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AN/ALQ-162(V)2 Sys Contr Award	2Q FY 83																																
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AN/ALQ-162(V)2 Sys Deliveries	12 months	12 months																															
	2Q FY 83	2Q FY 85																															
FY 82	FY 84	TOTAL PROGRAM																															
<u>COST</u>	<u>COST</u>	<u>COST</u>																															
5717.0	3,300.0	9017.0																															

1-152 - 1/21/80

DRSAV-C Form
1 May 76

2075

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ITEM NO.

PAGE NO.

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EXHIBIT P-3a

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 2 of 3

AN/ALQ-162(V)2, Continuous Wave Radar Jammer
PIP # 1-80-01-1078 (OV-1D), 1-80-01-1178 (RV-1D) *

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

	FY 82		FY 83		FY 84		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
OV-1D								
Contractual Non-Rec		602.0				424.0		1,026.0
AN/ALQ-162(V)2 Sys	45	2,288.0			46	1,878.0	91	4,166.0
Spec Test Equipment		327.0				635.0		962.0
Airframe Mod Kits	91	281.0					91	281.0
ERADCOM Support		170.0				363.0		533.0
Installations (OMA)			(30)	(36.0)	(61)	(79.0)	(91)	(115.0)
TOTAL		3,668.0				3,300.0		6,968.0
RV-1D								
Contractual Non-Rec		249.0						249.0
AN/ALQ-162(V)2 Sys	27	1,189.0					27	1,189.0
Spec Test Equipment		248.0						248.0
Airframe Mod Kits	27	82.0					27	82.0
ERADCOM Support		281.0						281.0
Installations (OMA)			(12)	(18.0)	(15)	(19.0)	(27)	(37.0)
TOTAL		2,049.0						2,049.0

FY 81 BUDGET ESTIMATE

Exhibit P-3a
Page 3 of 3

AN/ALQ-162(V)2, Continuous Wave Radar Jammer
PIP # 1-80-01-1078(OV-1D), 1-80-01-1178(RV-1D)

BASIS FOR COST ESTIMATE: (Amounts in thousands of dollars)

(RECAP FOR ALL AIRCRAFT SYSTEMS)	FY 82		FY 83		FY 84		TOTAL PROGRAM	
	QTY	COST	QTY	COST	QTY	COST	QTY	COST
Contractual Non-Rec		851.0						
AN/ALQ-162(V)2 Sys	72	3,477.0			46	1,878.0	118	1,275.0
Spec Test Equipment		575.0				635.0		5,355.0
Airframe Mod Kits	118	363.0					118	1,210.0
ERADCOM Support		451.0				363.0		363.0
Installations (OMA)			(42)	(54.0)	(76)	(98.0)	(118)	814.0
TOTAL		5,717.0				3,300.0		(152.0)
								9,017.0

METHOD OF IMPLEMENTATION: Aircraft modifications will be accomplished by contractor or depot contact teams at user locations. Estimated installation time is 50 man-hours per aircraft.

MOD KIT DELIVERY SCHEDULE:

FY 83	
1	2
2	3
4	4
45	46
27	

OV-1D
RV-1D

INSTALLATION SCHEDULE:

FY 83	
1	2
3	4
15	15
6	6

FY 84	
1	2
3	4
15	15
6	9

OV-1D
RV-1D

1-154 - 1/21/80

REPORTS CONTROL SYMBOL DD-COMP (AR) 1092		AIRCRAFT MODIFICATION		DATE 3 Aug 79																																																								
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. AN/ARC-164 Radio																																																										
AIRCRAFT AFFECTED: OH-6, OH-58, RV-1, OV-1, RU-21, U-21, CH-47.* (AH-1 is covered in Cobra Modernization P-3a; EH-1X is covered in Quick Fix P-3a).																																																												
<p><u>Description/Justification:</u> Type of improvement - Operational Capability. Need exists to provide 25KHz channel spacing for the 225-400MHz band of the frequency spectrum. Most Army aircraft use the AN/ARC-51BX radio to fill the UHF-AM radio requirement. However, the AN/ARC-51BX has 50KHz channel spacing while a securable radio with 25KHz spacing is now required. The AN/ARC-164 radio is securable and has 25KHz channel spacing and has been selected to replace the AN/ARC-51BX.</p> <p><u>Development Status:</u> The RT-1167/ARC-164 has been developed by the Air Force and has successfully completed first article testing by the Air Force. The Army has completed a three-month service test by TECOM (Apr through Jun 79) with only minor problems detected.</p> <p>The following milestones for procurement of GFE are provided. All contracts for the radio are through MIPR of funds to the Air Force.</p> <table border="1"> <thead> <tr> <th></th> <th>FY 77</th> <th>FY 78</th> <th>FY 79</th> <th>FY 80</th> <th>FY 81</th> <th>FY 82</th> <th>FY 83</th> </tr> </thead> <tbody> <tr> <td>GFE Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Initial Contract</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Leadtime (16 mo)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Production Rate (50 per mo)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Follow-on Reprourement Contracts</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Deliveries</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	GFE Contract Award								Initial Contract								Leadtime (16 mo)								Production Rate (50 per mo)								Follow-on Reprourement Contracts								Deliveries							
	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83																																																					
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Follow-on Reprourement Contracts																																																												
Deliveries																																																												
<p>*PIP NO.</p> <p>RU-21 1-78-01-0868</p> <p>U-21 1-78-01-0868</p> <p>RV-1 1-78-01-0866</p> <p>OV-1 1-78-01-0866</p> <p>CH-47C 1-79-01-0885</p> <p>CH-54 1-79-01-0885</p> <p>UH-1 1-78-01-0855</p>		<p>*PIP NO.</p> <p>OH-6 None</p> <p>OH-58 None</p>																																																										
<p>SSN</p> <p>AZ2900</p> <p>AA0550</p> <p>AZ2100</p> <p>AZ3530</p> <p>AA0250</p> <p>AA0300</p> <p>AA0600</p>		<p>SSN</p> <p>AA0350</p> <p>AA0400</p>																																																										

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1-156 - 1/21/80

~~CLASSIFICATION~~

FY 81 BUDGET ESTIMATE

REPORTS CONTROL SYMBOL DD-COMP (AR) 1082		AIRCRAFT MODIFICATION										DATE
APPROPRIATION/BUDGET ACTIVITY APA/2		MODIFICATION TITLE AND NO. AN/ARC-164										3 Aug 79
Basis for Cost Estimate		FY 76	FY 77	FY 78	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	TOTAL	
QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY	AMT	QTY
Non-Recur												
CH-47	.463											.528
SUBTOTAL	.463											.528
KITS												
U-21												
RU-21												
OV-1												13 .046
RV-1												86 .130
UH-1												.033
OH-58												
OH-6												
CH-54												
CH-47												
SUBTOTAL												210 .294
												419 .614
GFE												
U-21												6 .056
RU-21												18 ①
OV-1												95 0
RV-1												33 ①
UH-1												
OH-58												227 .920
OH-6												191 .710
CH-54												
CH-47												254 1.136
SUBTOTAL												926 3.878
GRAND TOTALS												3.853

① Units provided at no cost to this PIP by DRCPM-AE 1-157 - 1/21/80

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EXHIBIT P-3a

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1-158 - 1/21/80

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1 Apr 78

Exhibit P-3a

AIRCRAFT PROCUREMENT, ARMY

Section 9

Flight Simulator Procurement Summary

1-159 - 1/21/80

FY 81 BUDGET ESTIMATE

FLIGHT SIMULATORS PROCUREMENT PROGRAM

APPROPRIATION: Aircraft Procurement, Army

System	Type	FY 80 & Prior Qty/Amount	FY 81 Qty/Amount	FY 82 Qty/Amount	FY 83 Qty/Amount	FY 84 Qty/Amount	FY 85 Qty/Amount	Cost to Complete Qty/Amount	Total Cost Qty/Amount
UH-1 (2B24) (SSNA09500)	FS	21/56.1	-	-	-	-	-	-	21/56.1
CH-47 (2B31) (SSNA09100)	FS	3/24.8	-	-	-	-	-	2/22.8	5/47.6
AH-1 (2B33) (SSNA09300)	FWS	1/21.8	-	1/12.6	1/17.6	-	-	2/39.6	5/91.6
UH-60 (2B38) (SSNA09400)	FS	-	-	1/17.2	1/20.0	2/36.3	2/36.6	4/84.3	10/194.4
AH-64 (2B40) (SSNA09000)	FWS	-	-	-	-	-	-	4/117.2	4/117.2
GRAND TOTAL		102.7	-	29.8	37.6	36.3	36.6	263.9	506.9

1-160 - 1/21/80

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ASA(M&RA)
DACS-DC
DACS-BMZ-A
DACS-DP
DACA-BUB
DACA-BUS
DACA-BUR
DACA-BU
DAAG-OPZ-D
DAAC-RM-BB
OCLL

DAMI
DAMO
DAPE
DAMA-PP
DAMA-CA
DAMA-PPP
DAMA-PPR
DAMA-PPT
DAMA-WS
DAMA-WSA
DAMA-WSM
DAMA-WSW
DAMA-CS
DAMA-CSC-B
DAMA-CSM
DAMA-CSS
DALO
DAEN-ZCE
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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (in 5 parts) Department of the Army Justification of Estimates for Fiscal Year 1981, Submitted to Congress Jan- uary 1980, Procurement Programs, Aircraft, Missiles Wpns & Tracked Cht Veh, Ammunition and Other Proc,		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1981
7. AUTHOR(s) Department of the Army		6. PERFORMING ORG. REPORT NUMBER Army
9. PERFORMING ORGANIZATION NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-PPP-B) Washington, D.C. 20310		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-AOA-S) Washington, D.C. 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE January 1980
		13. NUMBER OF PAGES 421 (includes all 5 parts)
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Book covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition and Other Procurement, Army Appropriations programs submitted by the Army to Congress January 1980 for Fiscal Year 1981.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In justification of programs requested, this document, in separate volume for each of the five Procurement Appropriations, provides backup data for the Army Budget submission for FY 1981. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (This document has been declassified for NTIS distribution). * aircraft		